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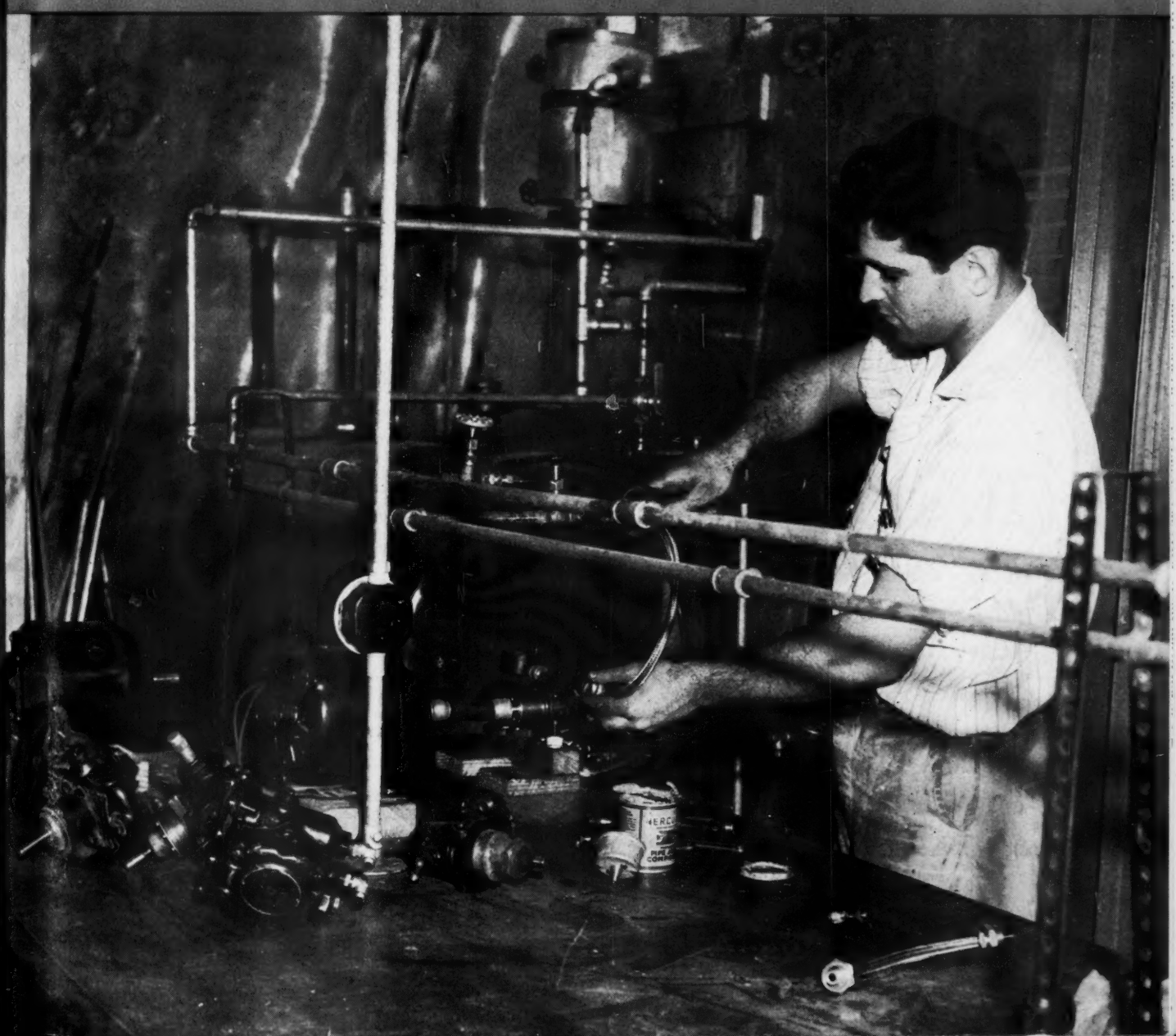
fueloil & oil heat



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VOL. 8, NO. 7

fueloil & oil heat

NOVEMBER

1949

Names in the News

Charles H. Burkhardt recently joined Perfex Corp., Milwaukee, Wis., as director of field education. As such he will work closely with dealers and distributors preparing the information and material they need for the proper servicing, application and installation of Perfex controls. Mr. Burkhardt, a contributor of technical articles to this and other trade magazines, was service manager for Concord Oil Co., Brooklyn, before serving three years in the Army. He next organized and conducted the Oilburner Division of the New York Y.M.C.A. Trade and Technical School, followed by a term as an instructor at the Walter Hervey Junior College.

Regis L. Plante, a recent addition to the staff of Braun Bros. Oil Co., Oil Burner Div., Winnetka, Ill., is coordinating the sales efforts of the company's dealer organizations. Mr. Plante formerly was connected with Commonwealth Edison Co. for seventeen years, has been sales training director for Eureka Williams Corp., and manager of the heating sales department, directing dealer sales operations for C. E. Sundberg Co., Chicago. Braun Bros. are distributors for Oil-O-Matic domestic and Ace Uniflow industrial oilburners.

Howard C. Shilling has been appointed manager, Chicago district office, Penn Electric Switch Co., Goshen, Ind. He replaces E. M. Smith. Mr. Shilling, an experienced sales engineer in the application of automatic controls, joined Penn in 1941 and

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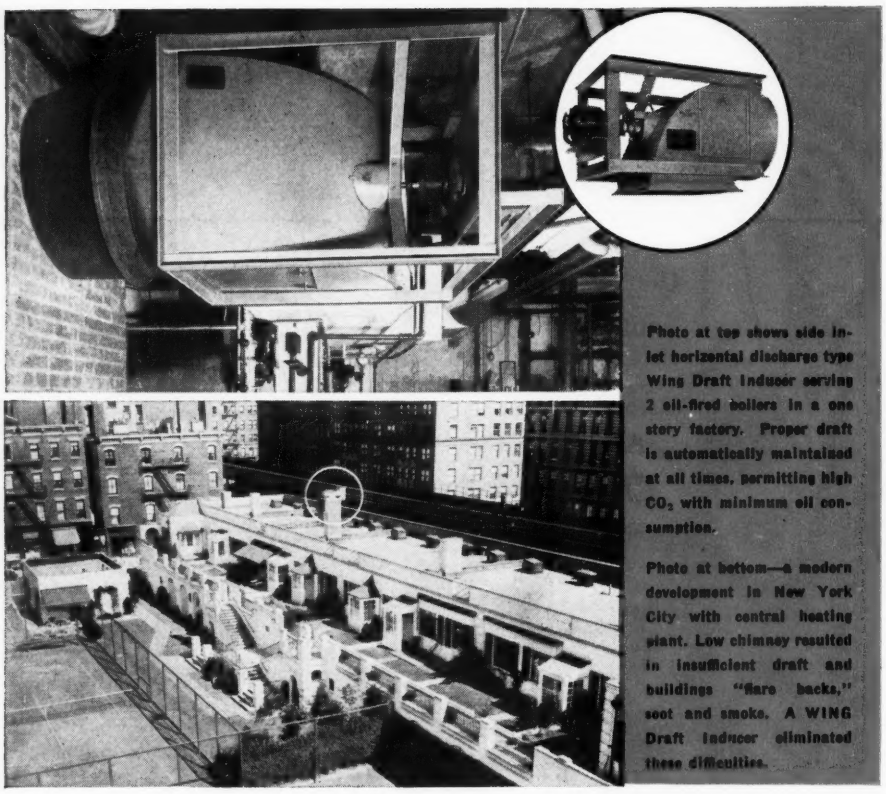

Photo at top shows side inlet horizontal discharge type Wing Draft Inducer serving 2 oil-fired boilers in a one story factory. Proper draft is automatically maintained at all times, permitting high CO_2 with minimum oil consumption.

Photo at bottom—a modern development in New York City with central heating plant. Low chimney resulted in insufficient draft and buildings "flare backs," soot and smoke. A WING Draft Inducer eliminated these difficulties.

Positive Draft

REGARDLESS OF WEATHER OR SIZE OF CHIMNEY

The Wing Draft Inducer provides a means for furnishing positive, uniform adequate draft for low pressure heating plants without the need for tall, unsightly, expensive stacks.

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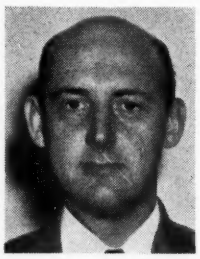
covered the Chicago territory until named manager of the Moline, Ill., district office. He also served as Goshen district manager before leaving the company in 1948 to enter the wholesaling field.

Reidar A. Norbom of Reading, Pa., has been named Eastern Division industrial sales engineer, Iron Fireman Corp., Portland 1, Oregon. Mr. Norbom has for four years been district manager of the Boston office for Orr & Sembower, Inc., boiler manufacturers, Reading, Pa. During the war he was an engineering officer in the Merchant Marine and before that had been assistant chief engineer, Franklin Machine Co., Providence; field engineer, Remington Arms Co., Bridgeport and a designer with General Electric.



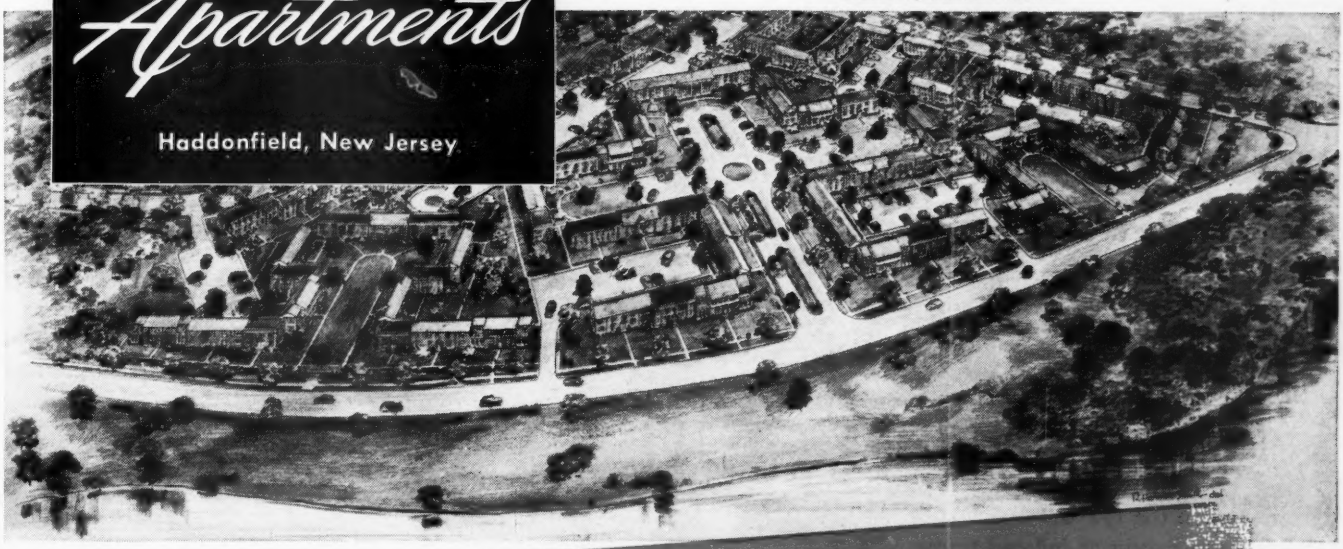
Frank J. Nugent has become sales manager of heating equipment, Ingersoll Steel Div., Borg-Warner Corp., Chicago, Ill. Ingersoll has been producing specific design heating products since 1937 at their Kalamazoo plant for heating manufacturers and plans to continue. Recently, product development and tests have been completed on a line of residential furnaces and winter air conditioners for coal, gas and oilfiring. These it is contemplated will be sold through distributors. Mr. Nugent, who will direct heating sales activities, will make his headquarters at Kalamazoo.

Edwin P. Short, Jr., has been added to the sales staff of the Thatcher Furnace Co., Garwood, N. J. He joins the company as a sales trainee, where, for a period of ten months, he will undergo extensive training in its sales, engineering and production divisions. After completion of this program, Mr. Short will be assigned to a territory as a junior representative. He is a graduate of the Princeton University School of Engineering and during the war served three years with the Navy.

Parkway Apartments

Haddonfield, New Jersey

Another B & G *Hydro-Flo* HEATING Installation



Owner:
Parkway Apartments, Inc.
Haddonfield, N. J.

Architects and Engineers:
Edwards & Green
Camden, N. J.

Builder:
Edwards Building Co.
Delaware Township, N. J.

Heating Contractor:
Herman Goldner Co.
Philadelphia, Pa.

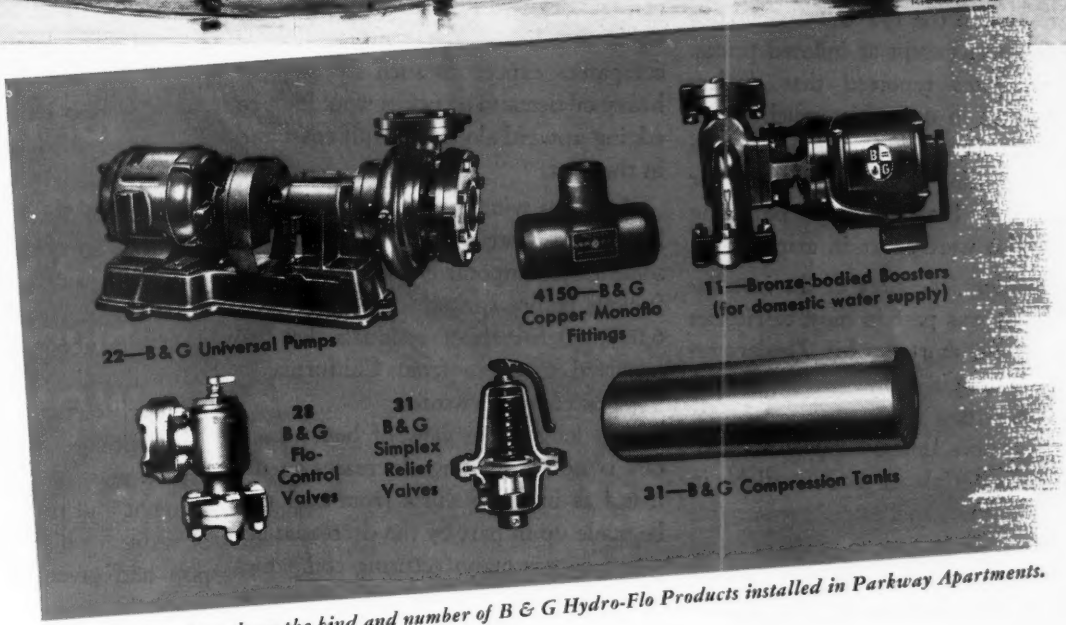

22—B & G Universal Pumps
4150—B & G Copper Monoflo Fittings
11—Bronze-bodied Boosters (for domestic water supply)
28 B & G Flo-Control Valves
31 B & G Simplex Relief Valves
31—B & G Compression Tanks

Illustration above shows the kind and number of B & G Hydro-Flo Products installed in Parkway Apartments.

Soon to be completed, this modern housing project provides shelter for 362 families. The selection of B & G *Hydro-Flo* Heating was prompted by the well-known comfort-economy advantages of this system.

The project is divided into eleven groups of buildings with a boiler room for each group. Trunk supply and return mains run the length of each group, with Monoflo single mains led into the individual four-family buildings. Mains are copper tubing with B & G Copper Monoflo Fittings on both the supply and return risers to the convectors.

Here again is another demonstration of the universal application of B & G *Hydro-Flo* Heating. Cottage, apartment, commercial or industrial building—all are more comfortably and economically heated with this modern forced circulation hot water system.

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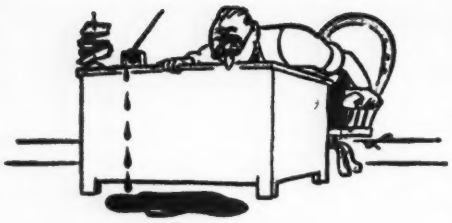
Fueloil & oil heat



Editorial Leaks

One of the more disturbing and immediate effects of the coal and steel strikes has been the effect on the tank and pipe supply. Basement tanks of the more popular 275-gal. variety disappeared from most lots shortly after the strikes got under way, and prices increased as much as 75% within two weeks.

Steel pipe in the 1¼ and 2 inch sizes also ran short except at inflated prices. Supply houses reported that dealers were buying in quantities much larger than usual until the supply houses started rationing to their customers for specific jobs. Stamped steel plumbing fixtures also were short in many areas.

Fortunately, the peak of the installation season was past in most territories before severe shortages hit. Dealers report that there is likely to be a sharper-than-normal decline in the seasonal installation curve unless supplies and installation materials are made available in larger quantities and at more reasonable prices. Few dealers are in position to get the required price for jobs that must be installed with gray market materials.

With supplies of tanks and pipe getting low and no indication of strike settlements at the end of October, any appreciable continuation of the strikes would become most serious. Some suppliers estimate that it will be close to Christmas before tank sheets and steel pipe were available if the men returned to work by November first.

◈

Every time John L. Lewis pulls his miners from the coal pits for their annual strike he compounds confusion in competing industries. Not only does the price of coal increase after these annual vacations, but the demand for the heavier grades of oil also rises as utilities and industry shift to more stable sources of fuel supply.

Current trends in the residual oil business are not all chargeable to Mr. Lewis, but his 1949 strike is contributing to the chaos.

While the West Coast swims in a flood of heavy oil, the Midwest is seized with a wave of price wars and concessions, and prices in the Gulf and on the East Coast are rising. Demand for heavy fueloils on the East and Gulf coasts was down to a several year low at the end of October. Mild weather probably had a large part in creating this temporary situation, but the fact remains that eastern stocks and prices are increasing while the rest of the country is trying to find places to dump residuals.

Coal and steel strikes, if prolonged, could so slow industrial activity that residual demand would remain at a relatively low level. Apparently major oil companies expect no such stoppage of heavy oil demand or prices would not be edging upward along the Gulf coast and in the East.

A severe winter and continued high level of industrial activity might find some areas temporarily short of residual fueloils before spring, in spite of some 6,000,000 barrels of residuals that are expected to move from California to the East coast this winter.

The long range view of heavy fueloils is not disturbing. Increases in demand as industry shifts from coal will be made up in part by the decreased demand by gas manufacturing companies who are planning to use natural gas for enriching instead of heavy oils. This shift, together with expected greater crude runs, should supply all expected residual requirements.

◈

No large scale production of oil from shale is likely in the foreseeable future, according to Eugene Holman, president of Standard Oil Company (N. J.), talking before the Joint Economic Committee of the Senate and House. Though the technical details have been worked out, Mr. Holman believes the abundant crude petroleum supply will make oil available for a long time at prices below shale oil.

Investments required for plant and equipment to mine the shale, transport it and extract the oil still are so great that the cost of producing shale oil in commercial quantities removes it from competition with crude. Some economists estimate this cost at 60% to 75% above the present price of well oil.

At the present rate of drilling, the industry is bringing in almost two wells for every one abandoned. A new producer is brought in every 23 minutes, according to studies by the American Petroleum Institute.

In the last 12 years the industry has drilled 200,992 producing wells in this country; pumped 115,442 wells to their economical production limits, and put 118,008 wells on pump as they ceased their natural flow. This means that every time 100 new wells come into production, 57 others are abandoned and 58 more become pumpers.

◈

Not too often do we meet names in the newspapers that are familiar to us in the oilheating industry, but a couple of our boys made it in recent weeks.

International News Service carried the name of W. J. McGoldrick of Minneapolis-Honeywell across the country late in August for his ingenuity in quieting his dog. The pup developed a habit of barking about daylight each morning. With the aid of a microphone, amplifier, and solenoid valve on a water pipe fitted with an oilburner nozzle, the dog's yips were made to open the valve for a moment and present Fido with a squirt of water for his pains. At last report the pup had given up the early morning serenade.

More recently R. E. (Ed) Moore of Bell & Gossett was called to public attention for his skill with the slingshot. The *Chicago Daily News* recently told the public of the fun Ed has had for years with a crotched stick and rubber bands.

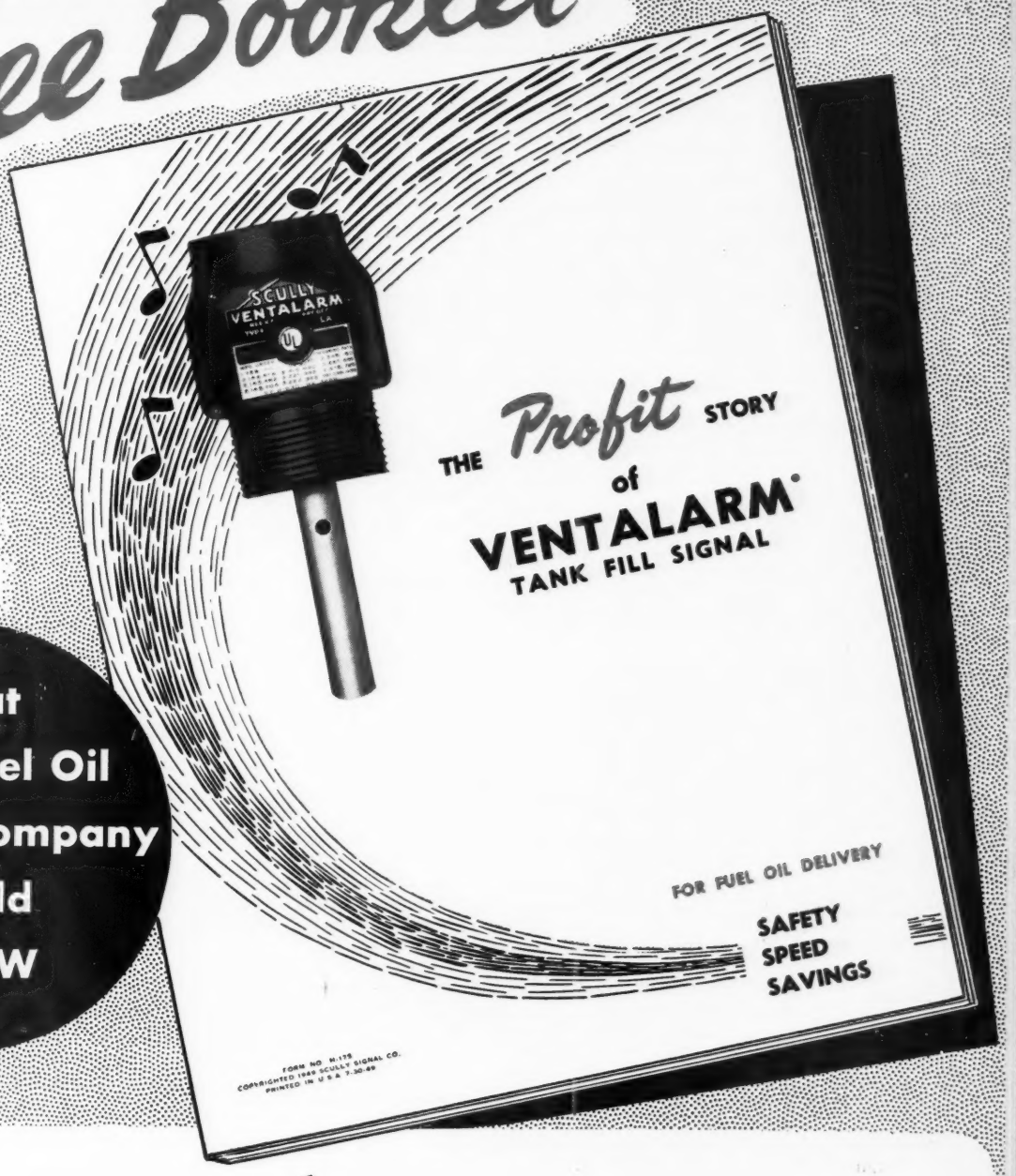
With steel punchings for ammunition, his favorite maple frame and surgical tubing for propulsion, Ed claims he can penetrate a half-inch of pine. Time was when our single-shot .22 rifle would do no better.

As a test of accuracy Ed has been matched with a golf pro for a bout at Lebanon, Ind., next June. He will shoot a golf ball from a king size slingshot mounted on the side of a Jeep, and the golfer will use his clubs.

Some fun, eh kids?

Free Booklet Tells

What Every Fuel Oil Delivery Company Should KNOW



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4. How VENTALARM Signal works.
5. What VENTALARM Signal customers say about it.
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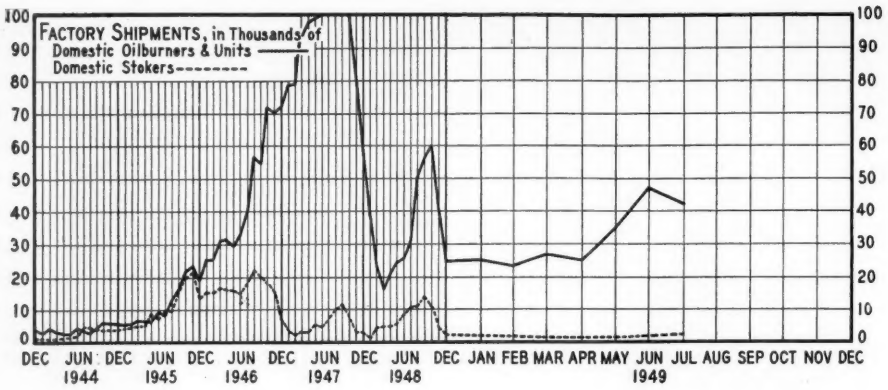
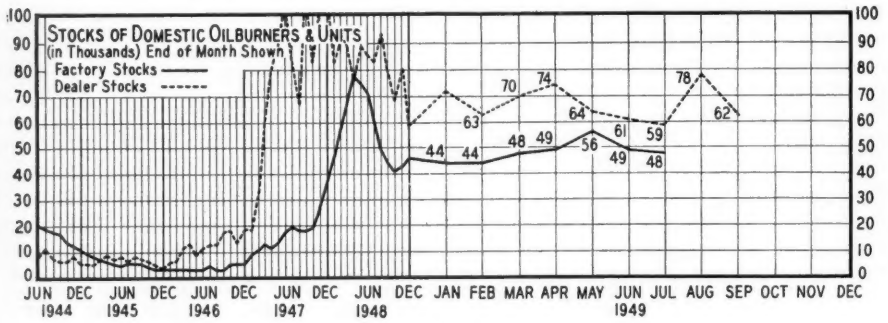

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1944 1945 1946 1947 1948 1949

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 152 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	AUGUST			EIGHT MONTHS		
	1949	1948	Percent Change	1949	1948	Percent Change
Conversion	29,947	20,928	+ 43.1	173,943	123,437	+ 40.9
Boiler units	4,397	3,098	+ 41.9	21,298	16,527	+ 28.9
Furnace units	7,540	6,233	+ 21.0	36,459	40,137	— 9.2
All Domestic	41,884	30,342	+ 38.0	231,700	180,101	+ 28.7
Commercial	2,032	2,079	— 2.3	12,866	16,273	— 20.9
Total	43,916	32,421	+ 35.5	244,566	196,374	+ 24.5

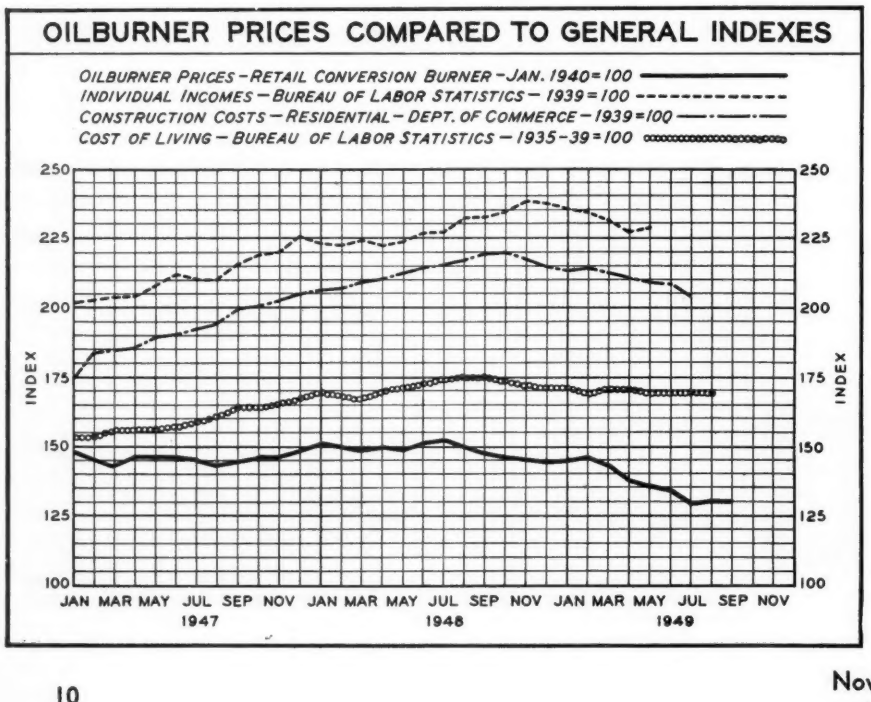

STOCKS OF DOMESTIC OILBURNERS & UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1944 1945 1946 1947 1948 1949

September Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
Sept. Aver.	$317	$669	$561
Aug. Aver.	319	672	567

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE			RETAIL		
September	130.9	Six months ago	135.6	130.2	Six months ago	142.7
August	127.1	Year ago	145.8	130.4	Year ago	147.2


OILBURNER PRICES COMPARED TO GENERAL INDEXES
OILBURNER PRICES – RETAIL CONVERSION BURNER – JAN. 1940 = 100
INDIVIDUAL INCOMES – BUREAU OF LABOR STATISTICS – 1939 = 100
CONSTRUCTION COSTS – RESIDENTIAL – DEPT. OF COMMERCE – 1939 = 100
COST OF LIVING – BUREAU OF LABOR STATISTICS – 1935-39 = 100
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1947 1948 1949

Oilheating Trends

ESTIMATED INSTALLATIONS of domestic oilburners and units for September were 89,775, an impressive rise of 77% over the 50,654 installed in the same month a year ago. This brings the total for nine months up to an estimated 405,816 which in turn is 32% over the 1948 figure of 308,159. Last year, the first nine months represented about 69% of the full year. If that same ratio should hold this year then total installations point to around 590,000. In any event it begins to look like the estimate that we have been using all year of 550,000 installations for 1949 is on the conservative side.

September installations were divided: New homes 18,690; Replacements of old oilburners 6,813; Conversions from other fuels 64,272. A similar division for the first nine months of the year would be: New homes 121,040; Replacements of old oilburners 55,706; Conversions from other fuels 229,070.

BURNER STOCKS: The high level of September installations caused dealer stocks of domestic burners and units to drop to 62,440, where they had been 78,165 at the end of August and 59,045 at the end of July. Factory stocks at the end of July, the latest available data, were 47,825.

BURNER SALES OUTLOOK: Of all the reporting dealers 73% say that they expect the remaining months of this year to be stronger in burner sales than normal for the season. That feeling is general throughout the country with lesser emphasis in the Midwest. Asked how they now feel about burner sales for the year as a whole the average dealer among all those reporting expects that they will be 24% above 1948. This is a very interesting figure in view of the fact that actual installations in the first nine months are 32% above the year before. When this later figure is coupled with the prediction that the late fall months will be stronger than normal it becomes clear that dealers in their offhand thinking are not conscious of how well they are doing. That has been somewhat apparent all through the year, as we have checked this factor of optimism every three months. In January the dealers predicted that this year would be 19% better than last in burner sales. At the

first of April their prediction was for a 24% rise. On July 1 they had sagged to an expectation that the year would be only 14% better than last and on October 1 as we have seen they are estimating a 24% rise for the year.

There is obviously a lesson of some kind in this array of figures. The public is buying more burners than the dealers have expected they would. Is this not an indication that the public is less concerned about gas competition and business slump and the other sales resistance factors than are the dealers themselves? Would this not indicate that an impressive sales promotion campaign on oil-heating could do wonders for the industry?

SUMMER FILL UP: On October 1 approximately 66% of all consumers had had their oil tanks filled during the summer. This number is a little on the low side because last year 73% had been filled by September 1 and in 1947 we found that 66% were filled by September 1. The reason for the abnormally high level of consumer fill up in 1948 was of course the public recollection of the supply troubles of the previous winter. We do seem to have reached a generally higher level of summer fill ups than in earlier years. Just before the war the average was for a 58 or 59% fill up by October 1.

FUELOIL DEALERS STOCKS: Fueloil dealers or distributors on October 1 were inclined to have their own bulk tanks well filled, obviously in anticipation of a strong price market. In the New England states the reporting group was filled to 75% of its bulk capacity on No. 2 or 3 oil. In the Mid-Atlantic states the fill up stage of bulk tanks stood at 77% on this product; in the South 71%; and in the Midwest 64%.

Curiously on kerosene and No. 1 fuels the storage levels showed wider variations with New England bulk tanks 58% filled; Mid-Atlantic 57%; the South 77%; and the Midwest 87%.

All of these figures are being stated in percentage of capacity rather than gallons because there have been some increases in capacity during the year, not yet well determined. For an approximate estimate on the No. 2 and 3 oil gallonage in dealers' tanks on October 1 reference can be made to the table of capacities in the January issue of the magazine. As a first measure of the increase for the year, the reporting dealers this month say that they have added 7% to their storage capacity for No. 2 and 3 oils since the start of the year.

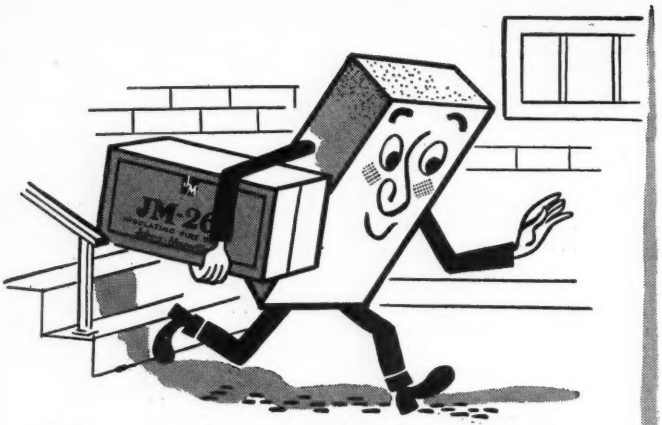
FUELOIL PRICE ADJUSTMENTS: Among all reporting fuleoil distributors 74% say that they gave to their customers a guarantee against price drops to October 1 in order to expedite their summer fill up programs. Country wide, only about 5% of customers will get rebates under the price protection arrangement. This will not amount to much in total dollars but will involve quite a little work in checking the accounts. Asked whether they were in favor of repeating

(Continued on page 127)

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
September		9 MONTHS			September		9 MONTHS	
1949	1948	1949	1948		1949	1948	1949	1948
107	..	461	..	Albany, N. Y.	..	..	..	..
548	25	3909	1130	Baltimore, Md.	744	386	2169	3168
..	..	..	..	Binghamton, N. Y.	8	26	83	122
..	..	..	..	Bloomfield, N. J.	15	11	64	71
..	448	..	..	Boston, Mass.	25	20	260	256
202	110	711	614	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	60	35	318	262
..	..	..	..	Des Moines, Ia.	121	93	899	742
..	819	..	..	Detroit, Mich.	1397	421	9017	5822
58	32	361	321	Elizabeth, N. J.	13	3	40	20
49	32	237	172	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	27	21	154	214
..	..	..	..	Hackensack, N. J.	11	8	48	40
79	348	724	964	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
66	23	249	133	Irvington, N. J.	3	1	19	44
..	..	..	..	Lynn, Mass.	13	10	152	130
27	40	218	..	Meriden, Conn.	..	..	..	..
455	252	2607	1448	Milwaukee, Wisc.	119	181	1479	1441
145	120	696	819	Minneapolis, Minn.	242	98	1290	1030
41	27	189	179	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	..	..	..	..
55	25	301	176	Mt. Vernon, N. Y.	..	..	..	..
323	..	1279	..	Newark, N. J.	..	..	..	..
24	140	611	582	New Bedford, Mass.	..	..	..	..
151	98	451	353	New Haven, Conn.	..	..	..	..
..	..	..	0	New Orleans, La.	..	..	..	..
39	16	209	102	New Rochelle, N. Y.	3	12	37	77
..	6386	..	44491	New York City (total)	..	..	..	..
..	5957	..	41410	Brooklyn-Queens	..	..	..	..
665	429	4176	3081	Manhattan, Bronx, Rchd	..	..	..	..
..	106	..	1054	Norfolk, Va.	62	56	524	471
..	1	..	10	Oakland, Calif.	..	..	..	..
..	101	..	794	Omaha, Neb.	84	54	493	574
33	15	146	105	Orange, N. J.	3	0	4	11
38	30	235	196	Passaic, N. J.	..	..	..	..
138	75	603	372	Paterson, N. J.	15	16	93	89
1219	609	6454	3833	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	35	10	108	72
51	37	252	233	Portland, Me.	9	18	103	125
660	689	5004	3935	Portland, Ore.	148	181	1528	1387
41	21	161	122	Poughkeepsie, N. Y.	..	..	..	..
..	57	..	457	Providence, R. I.	17	18	133	143
..	..	..	..	Reading, Pa.	16	7	51	33
73	76	592	599	Richmond, Va.	50	35	551	752
442	182	1724	1191	Rochester, N. Y.	..	..	..	..
25	50	187	208	Rockville Center, N. Y.	11	10	81	159
27	41	200	157	Salem, Mass.	3	18	80	91
35	276	596	1199	St. Louis, Mo.	90	42	419	368
360	144	1466	917	St. Paul, Minn.	96	..	552	..
36	33	367	536	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	..	149	..	..
..	..	..	..	Springfield, Mass.	41	45	361	431
64	29	375	305	Stamford, Conn.	..	..	..	..
128	..	507	..	Syracuse, N. Y.	25	..	261	..
..	..	..	..	Trenton, N. J.	3	4	63	25
..	..	..	..	Utica, N. Y.	8	6	64	105
190	217	902	1134	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	40	17	135	122
58	20	190	160	White Plains, N. Y.	4	4	74	65
147	119	755	667	Wilmington, Del.	15	6	84	97
227	..	1126	..	Worcester, Mass.	..	..	..	..
95	55	418	220	Yonkers, N. Y.	..	..	..	..
6336	4435	36058	26163	*Totals*	3455	1855	20977	18416
+42.9		+37.8		*Percent Change*	+86.2		+14.0	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor as they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.



I'm light in weight!

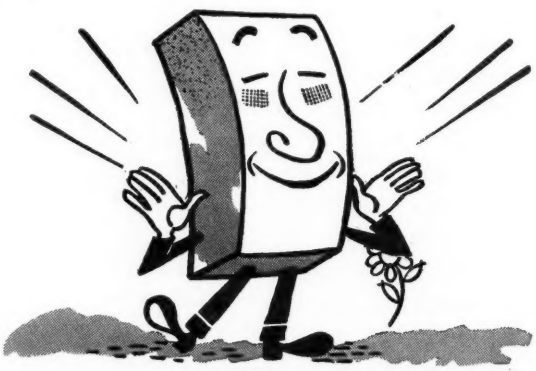
...and easy to carry on the job

I'm an insulator!

...I heat up quickly ...but cool fast, too

I'm adaptable!

...can be readily cut to build any size or shape of firebox



I'm Johns-Manville Insulating Fire Brick!

...I bring more profits per job to you ...more heat per gallon to your customers

Excuse me—for taking pride in what I can do for you and your customers...

You'll find that I'm *so* easy to work with... so easy to cut and shape with just a hacksaw blade into square, round, oval or pear-shaped fireboxes...

...Then just dip me into J-M 1626 Bonding Cement, and rub me into place... fill in behind me with J-M Dobfill. Presto, the job is done!

I'm not kidding about my light weight, either. Brother, you won't have to break your back lugging me around!

And here's a little earful on what I can do for your customers. I cut fuel use up to 10%. I get up skin heat in seconds! I don't have to absorb heat like dense firebrick. This means the firebox gets hot faster eliminating wasteful burning of fuel. Because of this, too, I help retard soot smoke and odor. Also, my cellular structure makes for quieter operation.

I'm available in six types...JM-1620, JM-2000, JM-2300, JM-2600, JM-2800—and for industrial use the new JM-3000. See your distributor about me, or write to Johns-Manville, Box 290, New York 16, N. Y. In Canada, write to 199 Bay St., Toronto, Ont.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville INSULATING FIRE BRICK

"For Skin Heat in Seconds" in Fireboxes

Telling the Story

The Presentation Is the Narrative Part of the Sale

by
Ray Horan

SELLING, like Caesar's Gaul, is divided into three parts; prospecting, the presentation and the close. In the last article we saw that prospecting is essentially a system for making new acquaintances on an orderly and continuing basis. Here we shall cover the presentation; the story of the sale, and later we shall discuss the close as a part of the sale.

Note carefully that these are "parts of the sale" and are not separate arts in themselves. Taken separately they are meaningless. The prospector who cannot make a presentation and close a sale is wasting his time. A closer who cannot find prospects soon is out of work, and the man who makes a fine presentation needs people to tell his story to, and the appeals that will get the order.

There is a school of thought which considers prospecting as a separate, inferior trade in selling—an apprenticeship to be served by a junior salesman until he can be trusted to tell the story. This group looks upon a "closer" as a member of the selling aristocracy. When the apprentices have found the prospect and the journeymen salesmen have worked him over, the closer steps in, removes his silk hat, opera cape and gloves and with a few secret words takes the order from the unwilling victim. This concept of selling is as naive as the radio version of a detective. The theory was disproved twenty years ago, though a few closers still haunt retail establishments.

If you ever have known a closer, you also may have noticed that he usually complained that the older he got, and the more experience he gathered, the harder it was for him to work his art. He usually believed he was slipping, or that the public was getting smarter. It never seems to occur to these men that the more they refine their closing; the more dramatic the emotional appeal and the harder they pound the table, the less time and attention they are giving to their presentation. They refine the information out of their monologue and whip the prospect to buy something he does not understand.

The presentation is the story of the product and those who stand behind it. Like any story, if it is good, it must be organized. It must have a place to start and a place to stop, and must not be so long or rambling that it bores the prospect or robs the interview of time to close.

Organize Presentation

Organization of the presentation does not mean that it must be "canned" in the usual sense, though the canned or "house" presentation usually is a good one. It has been worked over until it tells the story logically, completely and keeps away from blind alleys and extraneous conversation that may divert the prospect's attention. If the salesman is to use his own presentation, he should be made to write it. That is the surest and best way to make him organize his material, and present it in an orderly and logical manner. After he has found that the presentation works, he will be using a canned talk, though it is his own. Everybody repeats the phrases and the descriptions he has found to convey his meaning best. If you doubt it, listen to yourself telling the story of your operation, or a hunting trip, for the twelfth time. The best and most descriptive phrases will be repeated in the same places in your story as soon as you have told it times enough to organize it.

It is for these reasons we do not look with the same horror on the canned or house-prepared presentation that is common among the more temperamental salesmen. Some of the best and most successful sales campaigns this industry (or the country) ever has seen were canned to the degree that every salesman told the same story to the last comma. Such success does not come from a poor presentation. The story is written, tested and rewritten until it is proved. The individual salesman should hold serious counsel with himself before he decides to discard such a tool in favor of his own home-made recitation of the firm's story.

It never has seemed too important that the salesman use the house presentation word for word, exactly as it is written. He may rephrase those parts that do not fall naturally into his conversation, but he must use care not to detract from the meaning or the sense of the section he is changing. The point should be made emphatically and in the shortest time possible without slighting the meaning. It may be worthwhile for the salesman to practice the prepared presentation until he can handle it as written. Usually that requires less time than to figure out an equally forceful way to say the same thing in other words.

Complete organization of the sales story cannot be overemphasized. Not only does good organization keep the story flowing logically and insures against missing any sales point, but it serves as a guide to the salesman, helping him to continue his presentation after the inevitable questions and comments by the prospect. These interruptions by the prospect are a sign of interest, and must be answered completely, but it is important that the salesman be able to get back to his own story after he has clarified the points for the prospect. Only by thorough organization of his story can the salesman be sure he will not be led away from the points he must make, or that the interview will not ramble off to no conclusion and no decision.

There are, of course, the usual pleasantries to be exchanged on meeting the prospect again. He is encouraged to tell briefly how he keeps his roses healthy,

or explain Uncle Ned's water color over the mantel. These preliminaries are a continuation of the getting-acquainted process started during prospecting. The salesman should try to keep it brief and be a good listener. Other people like to show their knowledge, and the salesman is present as an expert only on one subject, the story of which usually is divided into four parts:

1. Introduction. Here the functions and advantages of automatic heat in general, and of oil heat in particular are outlined. This introduction should be dramatic without being spectacular. This is the start of a story, not an act, and the presentation must get and hold attention.

"Mr. Jones, I hadn't realized there was so much technique in using water colors. That picture adds a spot of color that makes this room attractive and livable. We at Oil Comfort Company can make your home even move livable. Without thought or effort on the part of you or Mrs. Jones, we can keep the entire house at an even, comfortable temperature fall, winter and spring, regardless of how cold it may get outside."

Comfort, cleanliness and convenience are touched on lightly in the introduction; only enough to open the subject and establish the function of automatic oilheat. The emphasis on the Three Cs belongs in the close these days, and not in the presentation. The appeal of comfort, cleanliness and convenience is no less potent today than it was twenty-five years ago. The same fundamental appeals sell oilburners today as they did before and during the depression, but in most markets we are no longer pioneering in the oilheating business. Our prospects know in a general way what an oilheating system will do; they do not know the *degree* to which they will experience those functions. For this reason we do not dwell on these advantages in the presentation, but treat them as an emotional appeal in closing.

2. Definitions. This second section of the presentation should deal with a definition of terms. It should outline the fundamental principles of a good oilheating system, explain the process of oil combustion, heat transfer, and heat distribution. It should cover the various ways of burning oil and the means used to accomplish the process. This leads to an explanation of competitive methods of burning oil. Out of this educational story should develop those premises on which your own product story will be based.

The salesman must not take the time or distract his prospect with a harangue against other burners. It is too well established that all oilburners, when properly installed, will deliver reasonable satisfaction. The prospect knows people using most of the types of burners, and any tirade against a particular type or name of burner will only antagonize the prospect, or at best create a diversion.

Once the salesman has established the principles on which he will hang his own product story, he may say:

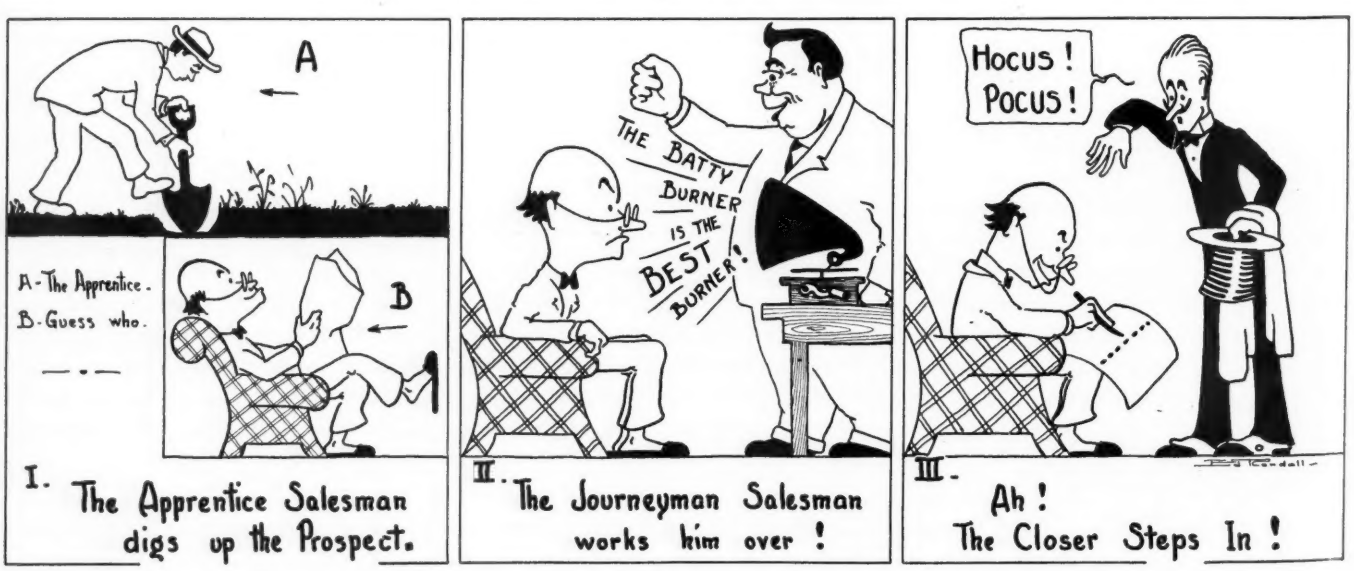
"Mr. Jones, I believe you will agree with me that the oilburner (or unit) that comes closest to filling the fundamental requirements of a good oilheating system is the soundest product to own. Therefore, I would like to show you how our equipment fills these needs."

3. Product. The salesman's story must come from the manufacturer or distributor of the equipment he is selling. It obviously is not possible here to suggest a product story for the different types and makes of burners. This product story will show how the equipment satisfies the fundamentals set up in the second part of the presentation, since the definitions have been written specifically for this purpose.

4. The dealer. With the principles of satisfactory oilheating established, and a product capable of satisfying all conditions, the fourth part of the presentation deals with the local dealer's ability to do the work and stand behind the installation to insure the continued per-

(*Continued on page* 126)

Oilburner Selling Is a One-Man Job


A
A-The Apprentice.
B-Guess who.
B
I. The Apprentice Salesman digs up the Prospect.
THE BATTY BURNER IS THE BEST BURNER!
II. The Journeyman Salesman works him over!
Hocus! Pocus!
III. Ah! The Closer Steps In!

The idea *that oilburner selling is a job for a three-man team is as dead as the dodo bird. True salesmen must find their prospects, tell their story and close the sale.*

Puffs and Pulsation

A Serviceman Learns they Are Related Causes of Trouble

by
Fred Feigenbaum

NOW THAT WE have a bomb capable of demolishing an entire city it is becoming more difficult to be impressed when a gas explosion blows out the side of a house, or an oilburner goes haywire and blows down somebody's smokepipe. Progress has stretched our sense of proportion out of shape.

Direct casualties from puffs have been very few, but they are frightening to the occupants of a house.

If it were simply a matter of proper burner and parts design puffback would now be unheard of. The manufacturers of transformers and other ignition apparatus have reached a state of near-perfection, and few puffbacks are attributable to failure of their products.

In former times the causes were more varied than now. Manufacturers and mechanics still were in the fumbling stage. They understood less about basic electricity and the hydraulics of pumping oil. The decline of buried tanks in proportion to gravity-fed jobs reduced the percentage of puffbacks due to pump and piping trouble. Nowadays the great majority are caused by failure in the electrical system, in spite of the increased excellence of ignition devices.

The cause is most often found in the high tension side of the works. Something new has been added; carbon.

First, let us toss overboard a favored fallacy, that the commonest cause of ignition failure and puffback is a bridge of carbon across the spark gap. This is found frequently enough in cases of simple ignition failure, less often in puffback. It is due to dirty or defective nozzle, usually, or badly adjusted electrodes. Because it is easy to understand that electricity can be conducted in this bridge which has replaced the spark-gap, it requires no imagination to exaggerate the symptom into a major factor in ignition failure, though the important cause is elsewhere.

The most frequent cause of puffback, by far, is carbon on the electrode insulators, or on the large insulators at the transformer terminals. A condition exists in the flame which causes fine carbon particles to sift back into the air tube of the burner and settle on every surface. As it builds up on the insulators its electrical conductance reaches a point where it balances the conductance across the spark gap. At this stage the current begins to have a choice of two paths to complete its circuit. Another day or two of burner operation and the current finds it easier to travel from particle to particle of carbon than across the gap. There is less resistance there.

This would result in simple ignition failure and safety shutdown, except for one fact. There is less resistance in the carbon, *but there is resistance*. When electricity passes through resistance, heat is generated. This electricity can generate a high temperature in this kind of resistance, enough to cause the carbon in the path of the current to be ignited. Some of it burns away in irregular patterns along the insulator surface. The burning away causes the total resistance to be increased. The current suddenly finds it more difficult to travel on the insulator surface than across the gap. So it returns to the gap, anywhere from five to ninety seconds after the start of the burner. The nozzle has been spraying oil all this time. The sudden return of the spark to the spark-gap causes the entire mess to be ignited.

Sometimes *this seems like the only solution for a particularly ticklish case of pulsation.*

This is the way delayed ignition works. This is the thing that causes the largest proportion of all puffs. We still have it, in the fourth decade of domestic oilheat. We understood this cause over thirty years ago, and it is basically the same today. We have more of it now because we have more oilburners, and because there are extra contributing factors, more effective methods for getting carbon on those insulators inside the blast tube. Progress.

In the days when most oilburners were installed in coal-burning heating plants this condition was encountered. The signs were recognizable as they are today; soot particles around the heating unit; odor. They tipped the man off that he had better look into the ignition system. If the stuff was scattered outside, the inside of the blast tube must be pretty dirty. He also was sure of another thing; there must be some pressure over the fire instead of draft. Some kind of draft trouble must be present.

Pressure over the fire does some disorderly, but predictable, things to the fire. It upsets the process of combustion, and causes the burner fan trouble getting air into the firebox. The fire develops a rhythmic panting, alternately resisting and allowing the delivery of fan air. During part of each regular cycle of panting, carbon particles are blown back into the burner tube.

Diagnosing draft trouble on a conversion job was relatively simple. The chimney would be checked, as well as anything else in the gas travel which might reduce draft. The chimney would often be found to be merely dirty. In some cases it was defective. When a job was found to be repeatedly dirty in this way it was almost always a case of defective chimney. Servicemen's reports contained recommendations to repair or rebuild. Not enough draft was being produced to carry off the products of this particular fire.

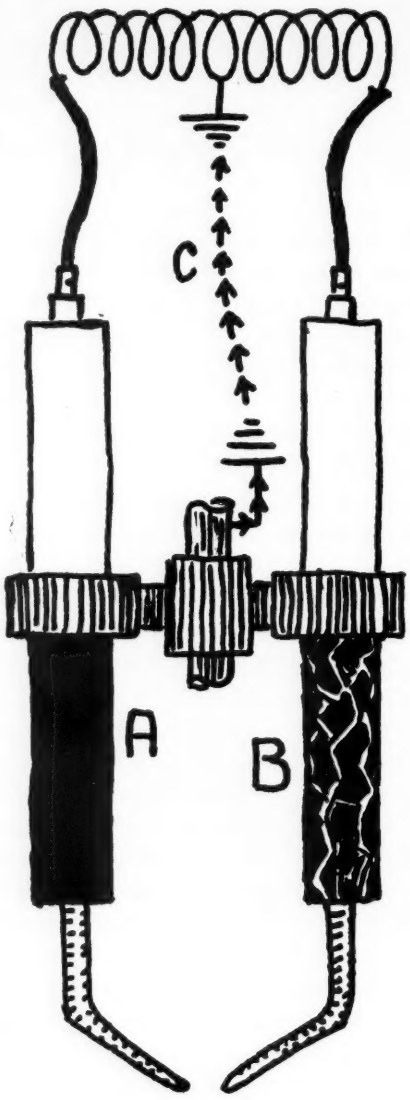
A special type of resistance to the

flow of the gases was often found which resulted in ignition trouble, boiler baffling. Square conversion boilers were, and still are, baffled to increase their efficiency. There has always been much misunderstanding of the methods of baffling. Many oilburner people have believed that it was necessary to restrict the flow of the combustion gases through the unit by building dams of firebrick in the passages. This had the same effect as a partly blocked chimney. The process cut draft away down, upset the effort of the fire to burn properly, and the combination of things played tricks with the way the fan was delivering its air. But the most important result, from the standpoint of safety, was the peppering of the ignition insulators with fine carbon.

Occasionally an especially bad case of draft interference was encountered, either the result of a really defective chimney or of baffle-happy engineering. The fire just couldn't take it, and the panting became a heavy shuddering, heard, and sometimes felt, in the far parts of the house. This effect became known as pulsation. But in those times it was far less common than it is now in proportion to the number of oilburners installed.

There has always been this relation between blackened insulators and pulsation. Whether or not the rhythmic disturbance of the fire is audible it is still in there all the time working to decrease the effectiveness of the insulating parts of the ignition system. The carbon keeps piling up and tempting the electric spark to wander from the straight and narrow path across the gap.

Superficial observers of these conditions, including servicemen, field engineers and other men interested in pulsation, often have not seen the connection between pulsation and ignition trouble. To them pulsation is noise. If there is no noise there is no pulsation. If they have solved the noise problem they are satisfied. The customer is satisfied, the dealer is happy to have another nuisance cleared up. They devise tricks and makeshifts to get rid of the trouble, but because their criterion is the effect on the ear only they just reduce it from the audible to the inaudible stage. It is still there after they have gone, breathing the black stuff back onto the insulators.



Caused by pulsation:

A. Insulator blackened, creating electrical conductance.

B. Carbon etched by partly burning away in paths of current.

C. Path of current shorted by carbon back to center ground in transformer secondary.

The problem of pulsation seems as far from solution as it was when I was a green serviceman. One afternoon I had an appointment with my boss, at a certain address. Arriving 15 minutes late I found the boss and the boiler steaming nicely. I listened to him and then to the burner. The burner sounded better. He turned off the switch. The burner shut down with half a dozen loud grunts.

"What do you make of that?" he asked. The boss was asking my professional opinion. I felt flattered, but unequal to the occasion.

"Let's try that again," I parried. Servicemen learn to sidestep early. The relay would have to recycle and the burner would have to run a minute or so; during the interval I might think up an answer. I had heard pulsation before, but this was the first time I had ever been expected to do anything about it.

The burner started and ran quietly enough, but when it was turned off there was that series of grunts again. I learned sometime afterward that this sound had acquired the name "cut-off pulsation." There were other kinds, also descriptively named, "starting pulsation" and "running pulsation." But here I was, with a few months nozzle cleaning experience, expected to solve a problem that had never entered my life before.

The burner was a conventional high pressure type. I found the fire burning in a well shaped firebox with corbel and wing-walls. The fire fitted nicely. Everything else looked pretty good to my partly trained eye.

I made like a serviceman. Checked the oil and air adjustments, walked around to the back, removed the relay cover. Turned the burner on and off a few times from that point. Then I removed the nozzle assembly to check gph and spray angle for no particular reason; put it back; started the burner and stopped it again. Viola! The windup noise lasted twice as long. I had seen this reaction before, without pulsation. Air had been trapped in the nozzle tube when I had it out. These bubbles were expanding after the burner stopped, forcing out a quantity of oil. But it didn't seem to mean the same thing to the boss.

"What the hell did you do now?" he inquired gently. "It's worse than it was before." I tried to explain but it didn't get across, so I tried another approach.

"If the cut-off valve closed when the switch was turned off there wouldn't be any noise," I remarked, feeling the need to say something simple.

"Make a note of that on your report," he said. So I condemned the cut-off valve on my job-ticket.

The next day I was sent back to the job with a new valve. I decided the idea was crazy. Cut-off valves don't work at the snap of the switch; they stay open until the pressure dies down, several seconds after the current is off, which indicated that this trouble must be in

some relation between the reduced air-rate through the fan and the still open valve delivering oil. But an order was an order, even though its basis was my own unconsidered statement. I changed the valve but the pulsation was not affected.

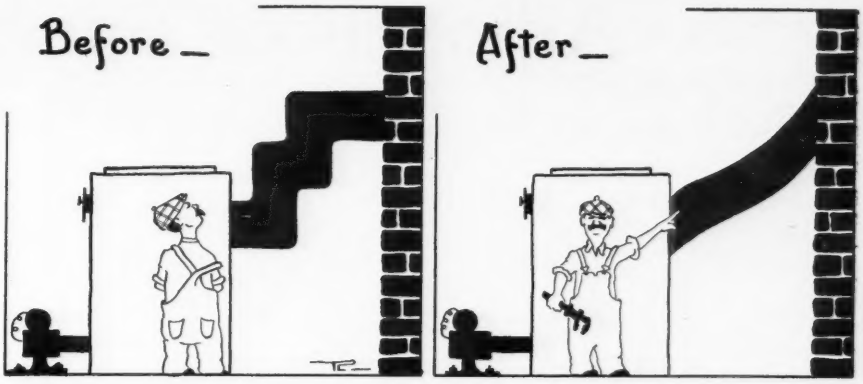
Former pulsations I had heard were in units especially designed for oil, but I was not able to draw any conclusions yet.

I didn't like the fire; it looked too lean. So I closed the air adjustment a little, with a startling result. Pulsation. Only this was a running pulsation. It sounded just like the shut-down variety, except it was continuous. This was my first important observation about the condition, something that might provide the key. Reducing the air brought on the noise. I opened the air adjustment again and the sound went away. At least I had a fact to work with. But the fire was again too white, indicating excess air.

There followed various combinations. I could produce different kinds of pulsation at will, starting, running, and cut-off. And I could get rid of the cut-off noise by opening the air shutter wide. But the price; a lean, lousy fire that stunk a little.

There was never any kind of pulsation when the firing door was open. I could adjust the fire any way I liked and there would be no noise, as long as I kept the door open. But shut the door on a good looking fire and the unit wanted to get up and walk. These two things I learned that day; pulsation disappeared with the door open, or with plenty of air from the fan. The conclusion that came from these and later observations was that you get rid of pulsation with a bad fire. Later experiments along this line included installing bigger fans, removing air-spinning apparatus from the burner tube, even removing front end cones. Anything that would get plenty of air in there would reduce pulsation. Anything that would reduce air turbulence, likewise. Removing the whole corbel from the back wall of a firebox was a partial remedy.

It is commonly said in this industry that pulsation is so tricky a problem that what cures one job will not work with another. This is another partly true statement. The conscientious serviceman who tries to leave a job with a reasonably good fire needs it as an alibi for his failures. He has more failures than others. The average Joe who is interested only in getting the job done knows the answer. Give it air. He also needs an alibi on occasion; pouring in the air may not have been the whole solution; or the job may have stopped because the fire was too lean to sustain itself after the ignition cut off. Constant ignition helps many fires burn smoother.



On the left *is shown an exaggerated version of a smoke pipe that can be improved. The "After" view shows corrections made to eliminate virtually all resistance to the smooth flow of flue gases.*

Some nozzle makers have developed special nozzles to be used in pulsation cases. These are effective, but cannot be depended on in every case. Changing air-handling devices also can help relieve pulsation by altering the air flow into the fire. In general the more turbulence the worse the pulsation will be.

About the most effective trick the serviceman learns is to provide an opening in the front wall of the firebox below the level of the blast tube. This is often called a secondary air port. It seems to be a contradictory idea, but air is actually drawn into the fire when a proper sized opening is made, in spite of the fact that there was pressure in the fire area before. A study of pulsation based on this observation, made by many servicemen, should turn up the fact that the over-fire draft in pulsation is not the simple result of the force and restrictions in the flue passages and the chimney.

This seems nearer to a cure for pulsation than other methods for two reasons. First it is possible to adjust the burner to make a more efficient fire than by using other tricks. Second, there is generally less carbon thrown back on the insulators. But when it is used in installations where the front wall of the firebox is visible the owner may object to the fire that comes out for the first few seconds of an operation. Under extended jackets it is a good solution. There should be no oil leaks or other fire hazards nearby.

Pulsations can also be remedied by doing something at the other end of the system, the chimney and the smoke pipe. If there are sharp turns in the breeching they can be altered to gentler angles. By this means whole lengths can sometimes be removed. The entrance to the chimney can be converted to a rising angle instead of the usual square break. Sealing the draft regulator is regarded with horror by some, but the inefficiency due to unbalanced draft is very small compared to that adjusted into the fire by the usual methods. Increasing the height of a chimney, especially that of a one story house, can be effective in improving draft to a point where it can handle a troublesome job.

Servicemen know that pulsation usually is a problem of heating plant design. They see oilburning boilers and furnaces which are notorious for pulsation and others which have none. They see that there is not one percent difference in efficiency between them. They also see that owners of pulsating jobs are unhappy and resentful, and poor boosters for oil heat. They see that they often must sacrifice combustion efficiency for the sake of quiet operation, and even when they have relieved the audible pulsation they are sure that they have not cured the odor or the soot problem, and the ignition trouble will very likely remain to produce future service calls, both no-heats and puff-backs.

Advertising Specialties

Suggestions for Their Proper Use by Oilheating Dealers

by
William E. Sheppard

INCREASING numbers of sales executives are learning that their promotion can be handled successfully and economically through the use of specialty advertising, whether their advertising budget is more than a million dollars or less than a hundred. The oilheating dealer can promote his name, create good will and sales when he buys and distributes specialties wisely.

When you use specialty advertising you don't buy space or time; you get your promotional value by giving something the recipient will want to keep, thus exposing your message to him day after day. Few forms of advertising can match its ability to remain effective for a long time and earn appreciation for the advertiser while performing its function.

The leading product of the advertising specialty concerns is the calendar—and with good reason. The calendar is useful and necessary; it is friendly; it makes a good impression; it is personal, going to the right place with little waste circulation; it has continuity; it is economical because once a calendar is hung that space comes to the advertiser free for a whole year, certainly a remarkable advertising achievement.

I haven't seen my fueloil dealer for well over a year; my tank is filled automatically so I haven't even talked to him on the phone. And yet he is in touch with me every day as I look at his calendar. He couldn't rent advertising space on my kitchen wall, but through the expenditure of a few cents he has given me a calendar which makes me want to advertise his company in my home. More than that, I appreciate his generosity!

There are two distinct types of calendars to consider, each doing some of the jobs of the other, but not being interchangeable.

1. *The Home Calendar.* This is the small calendar which is hung in the home, usually on the kitchen wall. Today's successful home calendar is not merely one picture with a small calendar pad beneath it. As with everything else, there is competition in calendar distribution and only the best calendar wins. It is not wise to spend $100 on calendars and have only 10% of them hung when you can spend $300 and get 90% acceptance and retention.

Calendar researchers have discovered that 78% of the women can identify the advertiser whose calendar she has in her kitchen. No other form of advertising has ever dared claim an efficiency as high as that. But the chances are she can't identify any advertiser whose calendar she threw in the waste paper basket the day she received it.

Winning Space on the Wall

The best way to win that space on the wall is to distribute the so-called 12 sheet calendar which has a different picture and a calendar pad for each month of the year. The 12 pictures give variety and a large calendar pad provides space for appointment memorandums beside the dates. Household hints, recipes and the like on the back of each sheet make these calendars even more useful.

The home calendar with the pocket feature is well worth the slight additional cost. The calendar pad is constructed to form a pocket in which the residents can store receipts, grocery slips, bills, magazine and newspaper clippings and so on. Some families use these pockets to keep a record of their expenditures for the month. You can have these pockets bring you additional advertising by inserting, before distribution, sales messages in some or all of the pockets. Using the pockets this way, you can, for instance, insert in one of the summer months' pocket a reminder to have you do a cleaning before the heating season begins. If you handle products which have seasonal sales, you can push them in the appropriate pockets. And, even beyond all this, this type of calendar often provides *more* than a year of advertising because many owners of them keep them at the end of the year because of the information on the back of the sheets or because they wish to retain the records which they have placed in the pockets.

2. *Indoor Billboards.* This second type of calendar recommended for fueloil and heating equipment dealers is jumbo-size; billboard advertising, used indoors. Indoor billboards are wall signs aimed at the whole community. Your town or community has many places where people shop, eat, work and play. There is valuable space in all these places where two universal *necessities* are displayed: clocks and calendars. When you erect a calendar indoor billboard in one of these centers of buyer traffic, you can be sure that on the average about 900 people will be exposed to your advertising message every week. And that's a total of 45,000 a year per calendar—all done with space that is free!

There are the plastic and tin desk calendars, celluloid top calendar blotters, celluloid pocket calendars which are usually inserted in wallets, calendars and thermometers combined and other industrial type calendars such as you are given by your suppliers. But the bulk of your sales are to homes. Hit your customers and prospects where they live and then establish your business identity throughout your community with indoor billboards and you will have done your calendar advertising job by concentrating your campaign where it will be the most effective.

The choice of subject matter is an important factor in the effectiveness of calendar advertising. One of the most effective ways to increase the value of this advertising expenditure is to pick a subject which fits in with your business personality and then repeat this same theme year after year. Subjects and artists are sold on an exclusive basis in a community so that the advertiser has no competition when he distributes a sought-after calendar illustration. To enable advertisers to retain their exclusive "franchises" calendar manufacturers permit orders to be booked as early as January of the preceding year

even though the calendars will not be shipped until fall or billed until December. Whatever subject you select, be sure that it is one which will build confidence in your company and is one which you will be willing to "live with" through the years.

Distribution Methods

Having selected the right calendar for your purpose, you still have a big step ahead of you: you have to distribute them successfully. To do that you need a distribution plan and you need to work that plan. One or a combination of several of these can be used.

1. *Distribution of Home Calendars.*

a. *Using the mail.* This way you send them to your customer and prospect list. If you do mail your calendars, here are two worthwhile tips: (1) Mail them before the Christmas rush so that they will get more attention and (2) insert a friendly letter or holiday greeting note, signed by you or your sales manager.

b. *Invite people to call.* Instead of mailing the calendar, you can mail postcards to customers and prospects on which you tell them that you are holding an attractive calendar which they are invited to pick up. You can also use newspaper advertising to describe the calendar and issue the invitation. This plan gives you the opportunity to thank your customers for their business and also to meet prospective customers. It is particularly effective when there is an attractive display room that can induce new sales.

c. *The registration plan.* This plan calls for your setting up an attractive display in October or November which features the calendar which you have decided to use. With the display you will have an invitation for the passers-by to stop in and register for the calendar. If your place of business is not in a good location for store front traffic, you can mail a description of the calendar to your list and ask them to send in a postcard if they wish to receive it. Before Christmas you can mail the calendar to your customers. During the week after Christmas you can have your salesmen deliver the calendars in person to the prospects who seem the most promising. When they arrive at the front door with an attractive calendar, their reception will be usually friendly enough to allow them to slip into a discussion of your fueloil service and equipment.

Publicity value of advertising calendars is hard to evaluate. Direct business from this source is hard to trace. Thousands see them for every one who makes himself known.

The calendar above, placed by Brockton Service, Inc., Brockton, Mass., has sufficient display value and interest that one woman asked the company for a "billboard" for her home. Clifford S. Davis, salesman for the company, tells the story this way:

"Our 1949 calendar carries a picture of a baby and a little girl with her doll. It is unusual we should find a girl who closely resembles the one in the picture. We have received a letter from Mrs. Maisy Ryan asking if we would please send her a calendar, since her little girl, Diane, wanted one for her room. They had seen our calendar in a bakery in a near-by town. We took the calendar to Mrs. Ryan, and it was then we discovered the resemblance. The enclosed snapshot shows the little girl and her doll beside our calendar."

It is not likely Mrs. Ryan or her daughter Diane will soon forget Brockton Service, Inc. There is no way to measure the number of people who also have seen and remembered the calendar in that particular bakery.

2. *Distribution of Indoor Billboards.*

As indoor billboard calendars are community advertising, the problem and the goal is to get the choice spots where there is heavy traffic: bowling alleys, barbershops, drug stores, restaurants, taverns and clubs. Once a good looking calendar is hung on a good wall spot, that space can usually be retained year after year.

If I were beginning an indoor billboard advertising campaign, I would strike out a few days before Christmas with a roll of calendars under my arm, thumb tacks and Scotch Tape in my pockets, and I would go up one side of the street and down the other. I'd get 100% hang-up this way with no waste of calendar money; I'd get better hang-up; and I'd get the opportunity to wish other businessmen a holiday greeting. As I would hang up my calendars I would write down the spots so that the following year I would know where to take the new calendars.

The main point I wish to make about distributing indoor billboards is that you can't expect to get the most for your money if you merely hand them out or drape them over a chair in your office and expect them to find their way to good wall spaces. Getting indoor billboards to walls where they can be seen the most is a man's job—so don't send a boy.

An outstanding calendar campaign calls for effort on your part. When you

do enter into the campaign wholeheartedly, however, you are likely to discover that calendars will exceed all other forms of advertising in promoting your business name, in establishing goodwill for you and, most welcome of all, in bringing you additional sales.

Some years ago, we *bought* calendars for our homes or offices. Today we know that we will be *given* calendars by companies who want to do business with us. I predict that the day is coming when playing cards will reach that same status. Then we will be amply supplied with free playing cards by advertisers who will have their advertising messages on the backs of them.

Playing Card Advertising

The Association of Playing Card Manufacturers have proven by thorough surveys that 90% of the people play cards. Much of that playing is done with friends. That trait causes the playing card advertiser to receive the most valuable form of advertising there is: word of mouth advertising.

When the customer's friends sit down to play cards with him, they see 52 miniature billboards representing the advertiser's name and services. How natural for one of them to say, "Who is this Smith-Jones Company?"

The customer replies, "Why they are my fueloil suppliers."

"Yeah? How are they? Do they do a good job?"

Then the customer becomes a booster as he says, "They certainly do. They keep me supplied with oil without my worrying about it and they keep the burner in tip-top shape too."

That kind of advertising is hard to buy. With the right kind of distribution plan, playing cards can do that advertising job at low cost. Fueloil and heating equipment dealers can use these plans:

1. *New Customer Plan.* When a new oil customer places his first order, a thank-you letter plus a pack of playing cards will start him out with a warm feeling. After a customer signs an order for a new burner, the salesman can present the pack immediately. The customer gets a premium for doing business with you and you get into his home with 52 of your advertising signs!

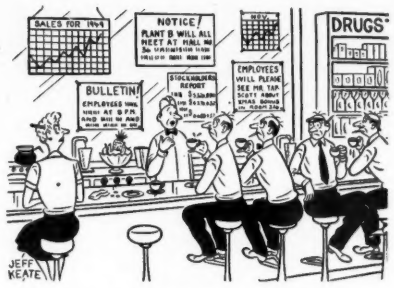
2. *As a Reward for Leads.* While you may give cash for leads, this can be supplemented with playing cards. Cash is soon spent and forgotten but playing cards last for months. The lead-giver has a reminder that you are interested in having him refer leads to you. Playing cards can also be given to businessmen such as real estate men, plumbers, builders, etc., to whom you may not give money for sales help.

3. *The Loan Plan.* This plan builds community reputation and goodwill. Using this plan, you provide cards for groups such as fraternal organizations, church, lodge and parent-teacher parties. You write or tell their officials that you have playing cards available for them on a loan basis. They are thus used again and again. You get credit for generosity and at the same time present advertising messages which your community can't miss.

4. *The Birthday Plan.* The birthday plan can only be profitable when directed at buyers of large quantities of oil or people who can direct a fairly large volume of business your way. Using it, you furnish the specialty advertising concern a list of names of people to whom you want to send playing cards on their birthday. That company will get their birth date and send the cards so that they will arrive on the proper day. You get credit for extreme thoughtfulness. The birthday plan can be one of the most profitable of all the specialty advertising ideas, if it hits the people whose influence means big business.

One of the most helpful services which specialty advertising concerns offer businessmen is their Direct Mail facilities. They will take a list of names and addresses and mail them every month a blotter, or folder or scratch pad which is illustrated by top artists and printed with expensive plates. Costs for these are low because they are sold throughout the country and not prepared for one user.

The Direct Mail Service is, however, not often used by fueloil dealers for their whole customer list because it is too costly for the volume of business from the average customer. Volume buyers can, however, get an advertising message from you every month with practically no bother to you, because the advertising concerns will even handle the mailing. One recent addition to these concerns' bag of tricks is the printing



"Your boss was in and said his staff spends so much time down here, this seems the logical place for office bulletins and charts"

of the recipient's name on each piece he gets—thus making sure that he will not discard it until the next one arrives.

One of the most popular with oilheating dealers is the thermometer. It is useful; it is appreciated; and it hangs the dealer's name, address and telephone number where it can be seen and used easily. The thermometer, like the calendar, can be given to customers and also distributed in public places.

Inexpensive advertising novelties are often effective as "door openers." Plastic thimbles with the advertiser's name and address on it cost only about a penny and can be used by salesmen when canvassing. They are also more effective than calling cards because a thimble is something of value and so is not thrown away, while a calling card is worthless to the recipient and often hits the wastepaper basket about the time the salesman shuts the front door.

Advertising gifts are also used extensively at Christmas time. Liquor and cigars are often gone by New Year's Day but when a good source of business is given a wallet, a pencil or a cigarette lighter he keeps it throughout the year. And because the advertiser's name is on the gift, he knows who remembered him at Christmas.

The products of the specialty advertising concerns are too numerous to discuss individually. New ones are brought out every year. New ideas are developed. What this atricle is designed to do is not influence you to buy any one of these products, but to show you that you can get real sales making help from these companies.

When you use specialty advertising you say "Thank you" more than "Please." Being known as a businessman who always says "Thank you" will not just help you keep your old customers—it will also bring in new customers who want to do business with that kind of businessman.

The Marshfield Felkers

In Wisconsin Town of 13,000, Family Builds Oil Fuel Empire

by
Robert Gray

STORIES OF OILHEATING growth and successful operation are all too often built around large city companies. This has been a logical outcome of the fact that when the war started 85 per cent of all oilburners were located in metropolitan areas of 50,000 or more population.

Since the war it has not been surprising to learn of successful small town and rural ventures, particularly in the Midwest where farm prosperity was setting new records in each of several years. But Lloyd Felker and his family connections in Marshfield, Wisconsin, don't fit either of those categories, neither metropolitan in location nor Johnny-come-lately in experience.

It was 25 years ago that Felker, freshly out of school and married, borrowed some capital and started selling gasoline, then followed the next year, 1925, with oilburners and fueloil. The oilburners properly preceded the fueloil because otherwise there weren't any customers, and Felker put the first burner into the area. Since then there have been a number of firsts, and the company occupies that position for its area in each of its numerous present activities.

The geographic setting of this accomplishment is part of the story. Not only is Marshfield a small town, but it is no where near a metropolitan area. The nearest cities are Minneapolis, 200 miles west, and Milwaukee 200 miles south. Like any Midwest community of 13,000 that is remote from large cities, Marshfield is important as both a distributing point and a gathering point for adjacent smaller villages and farms. Its industries are for the most part tied to the products of nature . . . a large lumber and veneer mill, several creameries, cheese factories and a meat packing plant.

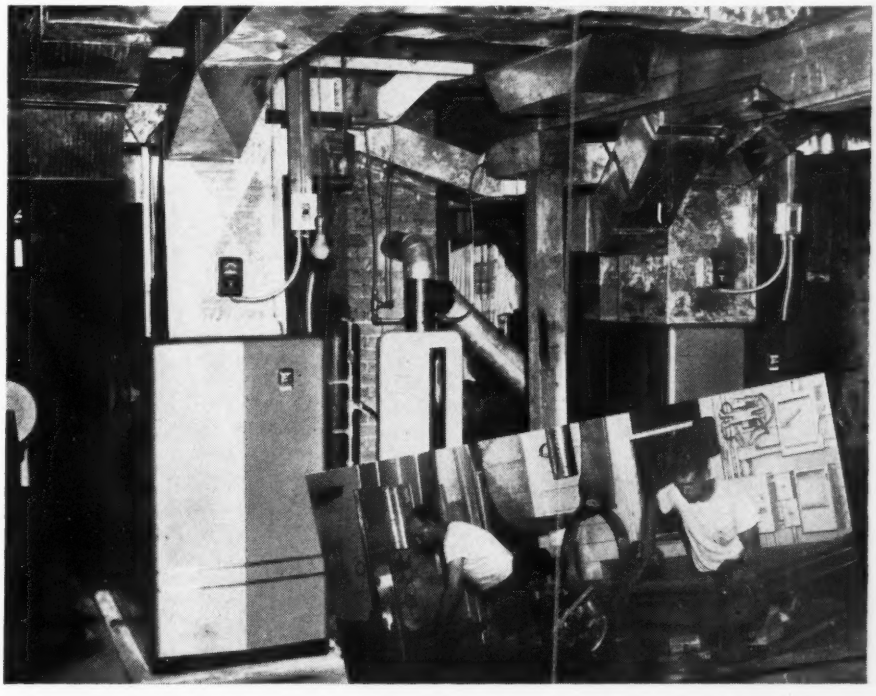
There's a 300 acre town park with a very good zoo, a large municipal swimming pool, well designed and tastefully landscaped and a Main street with stores similar to those in the better suburban areas of cities. One has an annual volume of a million and a half dollars. The rural areas round about are lush and radiate prosperity . . . not that there's a feeling of money to throw away, for these farmers are mostly of German background with moderate sized homes and weedless lawns, but there is visible assurance that the money is there if you're selling a useful product.

In that setting the Lloyd Felker Co. has built in 25 years not only a significant volume of gasoline and fueloil but it has branched out into numerous related lines to help build demand for the fuels. For example, there's the oilburner and heating department, a large LPG department and the necessary appliance store to furnish the units so people can burn the fuel, a distributorship for Goodyear with Felker the state's largest rural marketer, a manufacturing facility for Felker's own patented retreads in which steel is impregnated in the rubber, that can't skid even when oil is poured on a pavement, and a fine new building where the company sells International Trucks . . . incidentally, the most profitable of the 21 departments last year.

Farms Gets 20% of Oil

The company sells about four million gallons of fueloil to 2,200 homes, with 1,200 of these located in Marshfield and the balance in the surrounding towns and farms. Farms account for about 450 oilburners or 20% of the fueloil volume. In addition the company supplies fuel for 300 pot type water heaters.

Marshfield with its 13,000 population has all told 1,600 oilburners, and Felker has three-fourths of this oil business. Assuming five persons to a home, about typical of such an area, it appears that about 62% of the town houses are oilheated. This is not strange, for gas cost



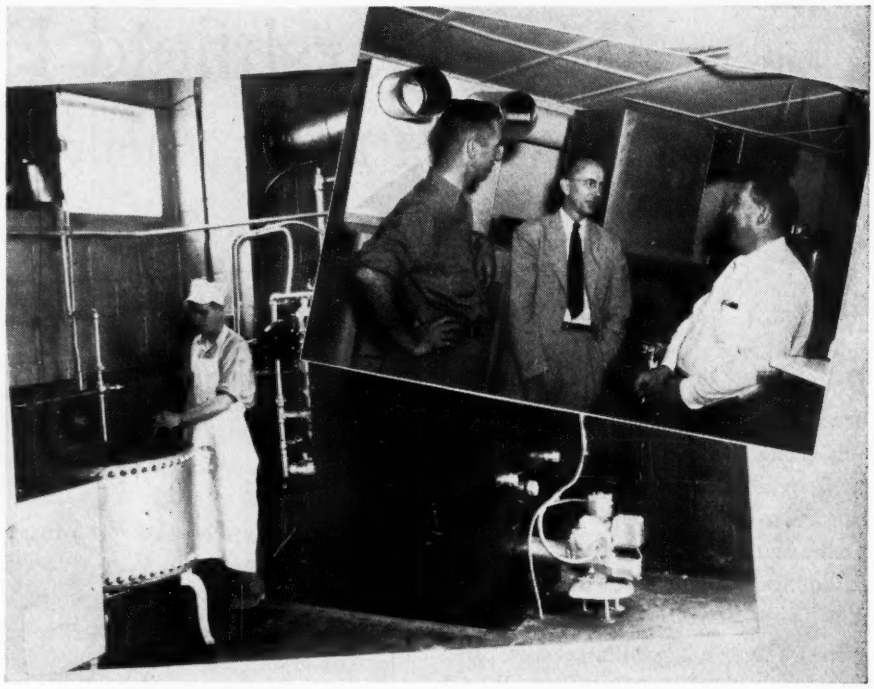
Ductwork *in this double Timken installation was made in Felker's own shop. Asked why he has his own shop instead of subcontracting such work to a sheet metal man, Felker pointed out that he can make ducts as cheaply as he can buy them, he can be sure of getting them just right and he wants to be able to emphasize in selling the advantages of a single responsibility for the whole job and its fuel. Shown in a corner of the duct shop are Ed Polachek, foreman, and Robert Becker.*

is prohibitive for heating. During this year about 200 additional burners are being installed and Felker has about half of this business, with ten other dealers sharing the balance. On the average, 80% of burner sales bring a new oil customer. The bulk of Felker's burner sales are Timken, some are Oil-O-Matic.

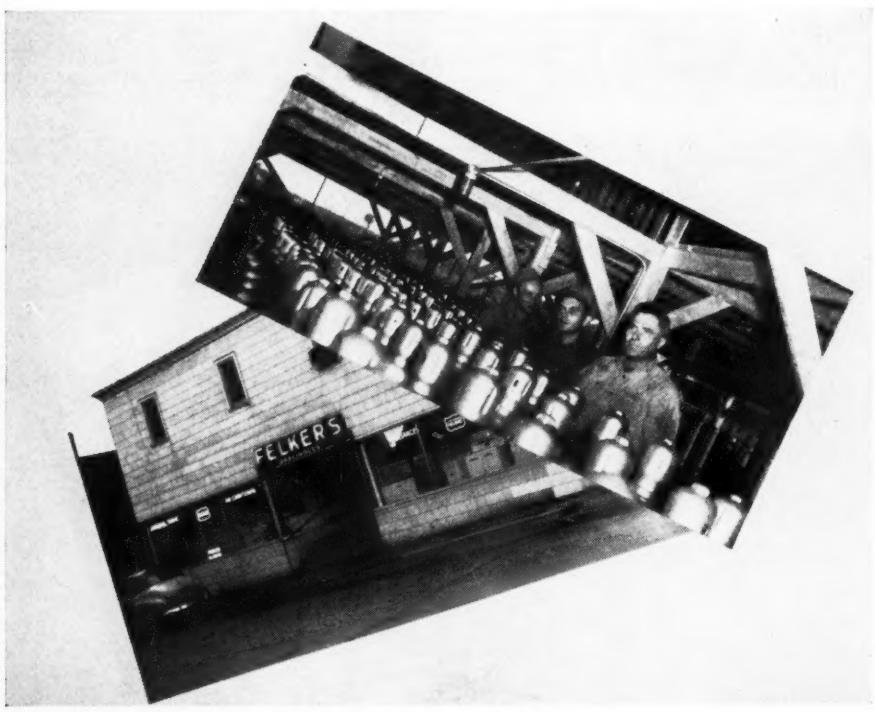
Constant Promotion

Sales promotion and advertising are big factors in all departments of the company. Lloyd Felker and Miss Corrine Kraus, who is secretary-treasurer of the company and the other principal stockholder, own an interest in Marshfield's radio station, WDLB, and the company has three programs on it every day. There's a Homemakers' Hour, then a 15 minute newscast at noon, and a sports program which in season broadcasts local games of all kinds.

When the company first advertised its LPG on the radio it had 460 customers, now over 3,000. A recent and rather unique contest brought the names of several hundred prospects. In the window of a Main street jewelry store Felker placed a seven-day clock and folks were to guess when it would stop on the seventh day. To record the guess they filled out a card with name, address and the fuel they used for heating and cooking. Each week four prizes were given and in the four weeks of the contest 4,100 cards were filled out. This was a radio promotion.



Oilheating department *manager Robert Felker, left, and president Lloyd Felker, right, discuss things with William Sullivan, senior development engineer from Shell's head office. The Oil-O-Matic job is in Wenzel's sausage factory.*



Bottling plant *for liquefied petroleum gas. Stopping work for the picture were, left to right, Elmer Schmidt, Elroy Cramer and Roy Luber, foreman. The company has more than 3,000 customers for LPG; it's all sold in bottles at 9¢ a pound (around 38¢ a gallon) and is used for cooking, water heating and refrigeration. This business is 70% rural, and is distributed on an automatic delivery system. Each six weeks the truck stops by the farm to leave a new bottle and pick up the old. Back at the plant the contents of the old bottle is measured and the customer billed for the net difference. The appliance store sells the LPG consuming equipment as well as a general line, and on the second floor of this building is the oil-heating department.*

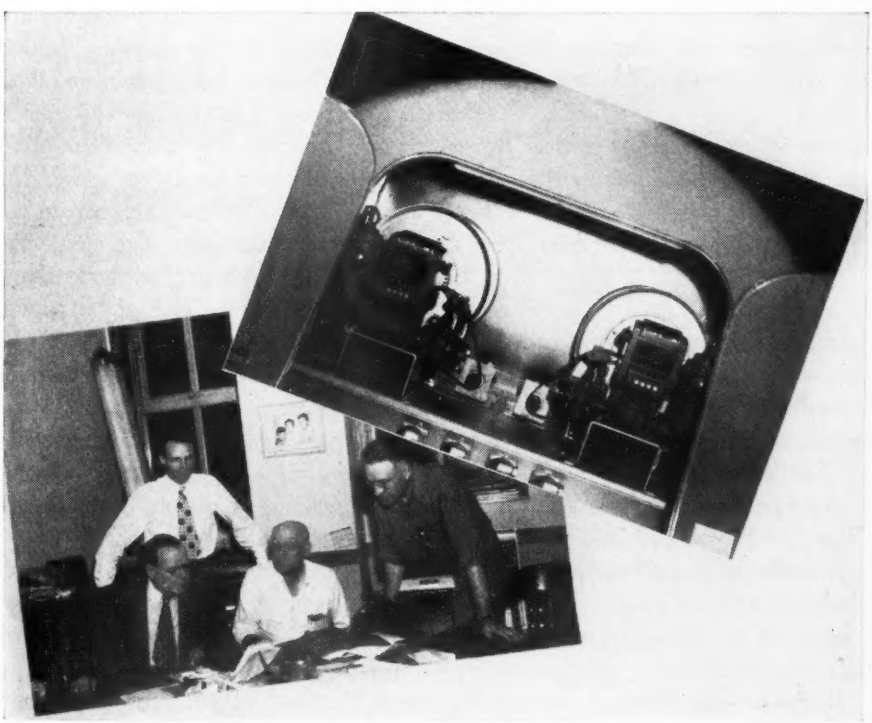
Each of the company's 100 employees attended a training school last fall and winter, one night each week, on the subject of selling. The teacher was an adult education professor from the University of Wisconsin. This season the subject will be petroleum in its numerous phases, with another university professor in charge. Employee turnover is rare as is usually the case in smaller towns when the folks are well treated. Felker's people have a retirement plan into which they put 5% of their incomes and the company matches it with 5% more.

Felker appears to be a very interesting and at least reasonably profitable organization. It has diversified more than most companies, but therein is some of its strength. Lloyd Felker explains that it's naturally good sense to treat cus-

tomers right so they'll come back but you've got to get them in the first place. With several lines or activities the company has that much better chance to know more people. In the several departments of the business the company now has over 12,000 active accounts, and when you know that many persons in a rural area it adds up to a lot of strength and ability to sell them many things if the product and price and service are right.

There's one other point to notice about small town or rural selling. Gossip spreads on the wind. A few shady deals or deliberate mistreatment of a few customers will put a man out of business before he can say Jack Robinson. But if the community thinks a dealer is on the level he can count on its sympathetic understanding if he has troubles with a new product or any new facility.

Bulkplant *at Marshfield. The company has others at Wisconsin Rapids, 35 miles away and at Stanley, 56 miles away. The three towns form a triangle and Felker's concentrated sales activity is within that region. There's also a small relay plant at Stratford, 12 miles out from base. The company is a Shell marketer and in addition to its gasoline and lube oil business it sells four million gallons of fueloil to 2,200 burner users. As a gasoline jobber it supplies the usual lot of stations, of which it owns 12 and operates four . . . the others are leased to operators. No. 1 station is on the Main street of Marshfield and hasn't been closed day or night for 25 years. From its three dispensing islands this station in summer months sells eighty thousand gallons a month, a phenomenal output.*



The Felker *family, Lloyd's father and uncle some years ago developed a fairly large business making tanks—oil tanks, milk tanks, truck tanks—and this is today one of Marshfield's principal industries. This firm, Felker Mfg. Co., supplies most of the fueloil tanks around Wisconsin and at the time of the visit had quite a few oil truck tanks in process, several of them for major oil companies. The photo shows the rear of one of these with complete double equipment . . . pumps, meters, hose reels . . . for handling No. 1 or Kero and Nos. 2-3 fueloil on the same trip. Such equipment is quite common in that region. The group in Felker Mfg. Co. office studying blueprints for a new tank are, seated left to right, Sam Mitchell, Shell's fueloil department manager for the Minneapolis division, B. L. Miller, vice-president, R. T. Finucane, treasurer, and standing, Pat Felker, secretary. Mitchell, proud of this Shell account, generously supplied a car for the trip.*

U. S. Department of Labor Fueloil Prices (August)

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken August 15 (cents per gallon):

	Range	*No. 1*	*No. 2*	*No. 3*
Boston	12.93	12.75	10.90	..
Manchester	13.63	13.05	11.60	..
Portland, Me.	12.28	12.28	10.62	..
[4]Buffalo	12.88	..	12.29	12.12
[1]New York	..	..	10.20	..
Philadelphia	..	11.78	10.42	..
[1]Chicago	12.79	12.45	11.53	11.53
[6]Detroit	..	13.90	12.88	[5]
Milwaukee	..	13.00	12.00	12.00
[1]Kansas City	..	12.32	11.32	11.32
Minneapolis	12.17	11.93	10.88	10.93
[1]Baltimore	..	11.53	10.40	..
[2]Wash., D. C.	..	12.00	10.81	..
Jacksonville	..	13.20	12.08	..
Norfolk	..	11.72	9.80	9.80
Richmond	..	12.10	10.38	..
[3]Savannah	..	13.32	11.92	..
[7]New Orleans	..	13.51	11.59	11.59
Portland, Ore.	..	13.94	11.64	6.55
[8]San Francisco	..	13.77	11.44	6.48
[6]Seattle	..	14.77	12.65	6.74

[1] Prices include 2 percent tax.
[2] Prices include 2 percent tax on all fuels except gas, effective August, 1, 1949.
[3] Inspection tax of one cent per gallon included on kerosene only.
[4] Prices include 1 percent tax.
[5] Insufficient data.
[6] Prices include 3 percent tax.
[7] Prices include 3 percent tax on all fuels except gas; prices for kerosene and fueloil No. 1 also include one cent per gallon State health tax, and 1/32 of one cent per gallon State inspection tax.
[8] Prices include 3.5 percent tax on all fuels except gas, effective July 1, 1949.

Joseph C. Donato has been named manager of Sohio Heat Sales for the Cleveland Sales Div., Standard Oil Company (Ohio), and *Lee G. Jackson* has been named to handle retail sales of both residual and distillate fuels.

Servicing Big Burners

Skill Needed for Flame Adjustments and Control Problems

by
J. W. Schulz

THE SERVICE MAN answering a breakdown call receives the thrill that comes of commanding authority and power, when the call relates to a big horizontal rotary cup oilburner. Whether the burner fires a huge heating boiler in a school, hospital, or 200-family apartment house, or provides the high pressure steam needed to run a factory, finding the trouble and making the burner run again is important to many people. In the big boiler room, anxiety fills the air while the service man checks over the brokendown burner. Instantly there's a feeling of confidence and relief when he says that he's found the trouble and will have everything running properly in a few minutes.

Big Burners Tough

It's not that horizontal rotary burners break down often. As a matter of fact, they are outstandingly rugged and trouble-free. But when on rare occasion they do break down, the capable service expert has his greatest thrill of authority and power. At that moment his knowledge, skill, and ministration are needed as at no other time.

Service calls related to the efficiencies and adjustments of the big burners are important, too. Cutting the fuel bill 10% may be momentous to a home owner using, say, $150 worth of oil a year. But a 10% reduction in oil consumption can make a service man's reputation where the closely-studied big job uses thousands of gallons of oil a week. A big burner does everything in a big way. When it wastes oil, it does that in a big way. Experts tending the burners of large heating plants and power plants often can show a job where their efforts save 5,000 gallons of oil a year, and sometimes others where perhaps 20,000 gallons a year are being saved.

As with small burners, when big burners give trouble an expert copes with it systematically by taking his step one, diagnosis, then his step two, correction. Before a defect can be eliminated, it must be located. The two distinct steps, diagnosis and correction, stand out particularly clearly on large jobs having many component parts, each complicated in itself. With the equipment spread out over a big boiler room or power plant, a service man simply has to find out which part is giving the trouble, and concentrate on that. He would spend days working on complicated controls, burner equipment, oil preheaters, motor starters, etc., if he made the error often made in servicing domestic equipment and tinkered with all the equipment because he did not know for certain which part of it was defective. For another thing, in servicing commercial and industrial burners a man does not have loads of spare parts on hand, as often men do in servicing domestic equipment, therefore he can't just keep on trying out new parts in a desperate hope of stumbling on the trouble by accident. The unclear thinking, bungling, and tinkering that sometimes gets by with domestic burners never gets by with the big burners.

Types of Service

In servicing automatic horizontal rotary cup burners, specialized skill and know-how are needed to handle these aspects of the work:

1. Adjustments which lead to high combustion efficiency and result in overall economy for the oil-fired boiler.

2. Problems of the handling of the oil by the burner equipment; problems involving oil piping, and preheating and pumping the oil.

3. Large-scale control and wiring problems.

4. Coordination of the heating system or power plant with the burner equipment with the end result that the steam is not only generated at high efficiency, but also is utilized effectively and efficiently.

5. Attention needed for the burner itself, involving a full understanding of its adjustment, care, and maintenance.

Item #1 includes, of course, making the oil-rate and air-rate adjustments which must be made for any burner. One characteristic of the horizontal rotary cup burner is that the flame receives some air from a blower in the burner, and some by natural draft through air openings in the floor or front of the firebox. The blower air is regulated by an air damper in the burner. The air fed the flame by natural draft is regulated either by changing the over-fire draft or adjusting a damper through which the air enters the boiler; where no damper is provided for this and the proper over-fire draft does not provide the proper amount of air by natural draft, the secondary air intake may be made larger or smaller as a means of rough regulation.

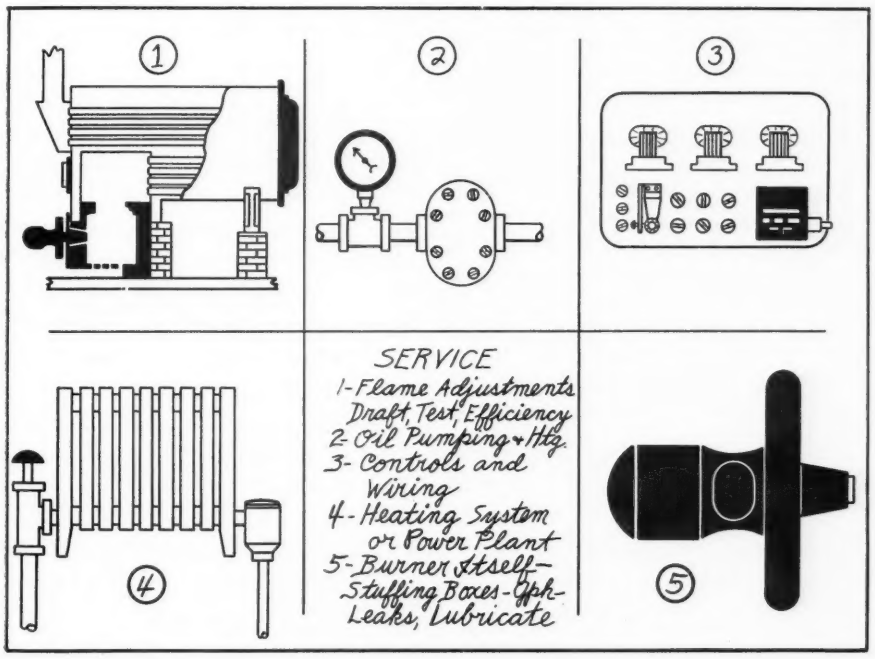
Opening the damper which regulates the amount of blower air fed to the fire usually makes the fire narrower, and if overdone leads to impingement of oil on the back wall of the firebox and pitting or rapid deterioration of this wall. Closing this damper tends to widen the flame; if overdone causes carbon to deposit in a troublesome manner at the front of the firebox. The flame shape thus usually can be altered by adjustment of the amount of air fed to the flame by the blower. The proper amount of blower air is used to obtain a flame of shape suitable for the firebox, then to obtain high CO_2 the amount of air given the flame by natural draft is regulated carefully. To go further in obtaining a flame of the desired shape, in certain burners the air cone or snoot that encloses the atomizing cup is adjusted or replaced by a different air cone, or an atomizing cup of different characteristics is used.

Proper Air Regulation

The tip-off needed by service men new at servicing horizontal rotary cup burners is: Don't try to adjust the combustion-air rate by using only the air damper on the burner; in addition, vary the amount of air given the flame by natural draft. Secure the proper flame shape by adjusting for the proper

amount of air from the blower. Make final close adjustments and secure high CO_2 by giving the flame the right amount of air by natural draft.

Modern, automatic regulation of the smokehood draft is extremely important on installations of burners of this type because of the large amount, up to 80% of the air needed for combustion, of air fed to the flame by natural draft. Where because of poor draft regulation the over-fire draft varies greatly, the flame receives air at widely different rates and adjustments for high CO_2 and good



efficiency cannot be made. These jobs need excellent automatic draft regulators.

Burner models having low-fire starting features, high-low flame arrangements, or gph modulating controls need special care for setting the oil and air rates. The smallest flame must be adjusted to be efficient by altering the oil rate, primary air rate, and secondary air rate; so must the largest flame. Where intermediate flame sizes automatically are used to match the load, they too must be efficient. Often it takes patience enough for eight hours of tedious work, 30 or 40 instrument check-ups, and a touch of genius in dealing with linkages, levers, and the angularity of damper and oil gph devices, to wind up with clean-burning and better than 12% CO_2 at every fire size from a burner that automatically gives fire sizes of, say, 12 to 60 gph.

Firebox knowledge is needed by the man who services commercial and industrial burners. Where combustion chamber carbon and resultant burner trouble results from poor firebox design, he must be able to diagnose the trouble correctly and outline corrective measures. He must have the confidence in himself to blame the firebox design if it causes greatly oversize fuel consumption, smoke, or inability to carry the peak loads on the boiler. Especially in power plants, combustion chamber design can make or break the performance of a burner.

The second aspect of know-how needed to service horizontal rotary cup burners, listed earlier, was problems of the handling of the oil by the burner equipment; problems involving oil piping, and preheating and pumping the oil.

Vacuum gauge readings are so meaningful, with relation to the problem of drawing oils Nos. 5 and 6 from tanks to pumps, that vacuum gauges are installed permanently and referred to constantly on many installations of industrial burners. The well-equipped service man always carries with him a gauge he knows is accurate and dependable. It is used, when pumping or suction line oil temperature trouble is encountered, to tell him (1) the amount of vacuum the pump develops in drawing oil from the storage tank, and (2) the maximum vacuum the pump can develop.

The importance of properly controlled, well-planned oil preheaters cannot be over-estimated in connection with both manual and automatic burners for heavy oils. In many plants, starting the burners depends on preheating the oil properly as a first step; and maintaining high efficiencies rests solidly on the quality of the work done by the oil preheating equipment.

Item #3 in the list of know-how needed to service horizontal rotary cup burners, covers large-scale control and wiring problems. This includes the latest, extra-safe controls now used with many of these burners, gph modulating equipment, waterline controls and safety devices, and motors and accessories of the polyphase as well as single phase types. Practice in reading involved wiring diagrams is necessary for the service expert; running down trouble where, for example, 36 wires are located in one large conduit is no job for the amateur!

Heat Distribution

An oilburner receives credit for its fuel economy when, operating well in conjunction with a splendidly efficient heating system, it produces outstandingly low oil bills. By the same token, when an old heating system infested with fuel-wasting shortcomings wastes oil, very often the burner is blamed. This brings out the importance of item #4, listed earlier, coordination of the heating system or power plant with the burner equipment with the end result that the steam is not only generated at high efficiency, but also is utilized effectively and efficiently. To the industrial burner expert capable of minimizing oil consumption, every power plant and heating system specialty related to efficient use of steam is important. That includes traps of all types, reducing valves, water heating equipment, controlling devices that make for efficient use of steam at lowest and highest pressures, and the all-important modern controls for regulating the heating of large buildings. Merely on two-pipe steam heating plants, for example, one dealer handling big burners does not consider a heating plant fit for his burners until he has made certain himself that every radiator heats fully at moderately low steam line pressure, checked every steam trap for himself, and made certain that under-radiation in certain parts of the building will not cause waste of oil. He frequently sells the service, to a buyer of one of his

commercial burner installations, of installing orifices in radiator feed valves, overhauling vacuum and condensate pumps, and taking other specialized steps to put steam heating systems in condition for exemplary, highly efficient operation. Most steam plants more than 25 years old have dozens of defects that cause up to 40% of the fuel used to be wasted, says this dealer. Old factory and laundry plants are worst of all, he finds, next come the plants in old institutions and hospitals.

Finally, as item #5, comes attention for the burner itself, involving a full understanding of its adjustments, care, and maintenance. The automatic horizontal rotary cup burners of different makes employ widely different types of highly developed arrangements and devices to regulate the gph rate, and to provide proper fire sizes with the fueloil temperature varying. A service expert can do best work only if he knows the in's and out's of the oil regulating system in the burner he is working on. To obtain best atomization along with a suitable flame shape for a particular installation, an expert must know the burner manufacturer's instructions regarding adjustments or changes for the atomizing cup and air nozzle or air snoot. Because of these and a dozen similar items, a service man is helped tremendously by an installation and service manual, and last-minute factory bulletins on servicing, put out by the burner manufacturer.

Though to make them perform at their best takes much specialized know-how, and though their power and the amount of fuel they use make it particularly important that these burners perform at their best, many of the horizontal rotary cup burners in use today are producing just ordinary results. Some of these give 5% CO_2, go off on safety half a dozen times a month, blow fuses regularly, lose prime because of suction line leaks, and otherwise misbehave after the fashion of sick domestic oilburners. The expert in domestic burners, yearning to improve himself and to step into the field of big, powerful, burners which use the heaviest oils, therefore often does very well when he dares take it upon himself to answer his first few service calls on horizontal rotary cup burners. As with domestic equipment, the big burner which breaks down after having run dependably for months invariably has developed just one defect. Locate that defect carefully, and repair it in a workmanshiply manner, and the burner can be put to work again. Avoid one error frequently made by men who do not follow a straight line of thinking: Don't, while you should be looking for the single defect that caused the breakdown, develop and start working on half a dozen of your own ideas on how to improve the job generally. First find and eliminate the defect that caused the breakdown. Later and after careful consideration, decide about doing additional work to improve the installation.

Urge "Open End" Mortgages To Ease Modernization Credit

ATTENTION of banks, insurance companies and other lenders has been focused on the "Open End" mortgage as a means of financing modernization and improvement of real property as *Architectural Forum* has publicized this form of financing. It is at least as important that dealers understand the possibilities of this type of credit if it is to be used to its fullest extent. It is estimated that wide use of this type of credit could double the home modernization market.

Open End mortgage or "Additional Advance" financing is simply a system of allowing a person with a partially paid mortgage to reborrow up to the limit of the original mortgage or up to the present mortgage value of the property, and spread his payments over the remaining term of the mortgage. Most building and loan associations, banks and other lending institutions now will arrange such financing for the people whose mortgages they hold.

The most widely used type of repair and improvement credit at present is the FHA Title I plan. Loans are made by banks and other lenders at a 5% discount. Since this discount is based on the total amount of the loan, and not on the declining balance, it represents about 9.5% interest on the money in use. The maximum term is three years and 31 days. A loan of $1,000 for remodeling or repair under FHA Title I would have to be paid back at the rate of $31.90 a month. If a homeowner already is paying $57 a month on a $7,100 mortgage the additional $31.90 payment would bring his total monthly payment to nearly $89. Since 80% of all U. S. families have incomes of less than $5,000 a year, such a monthly outlay will be out of the reach of most family budgets.

In contrast, a $1,000 loan with repayments spread over the remaining ten years of a mortgage would require a monthly payment of $10.61 a month, or only about a third of the monthly payment the same loan would cost under the FHA Title I plan. A homeowner can install an oilburner, insulate his house and paint it for about the same monthly payment one of these improvements will cost under Title I.

Lenders like the additional advance plan because it makes possible improvement that will increase the value of the property on which they hold a mortgage, and it offers additional loan possibilities on property in which the homeowner holds a sizable equity, thereby giving greater security to the lender.

All lenders are not adequately informed about this type of credit. A recent *Architectural Forum* survey of 3,000 lenders showed many of them making additional advances, though some believed it was against state law. Many states have amended their mortgage law to allow for additional advances in recent years. In other states lenders have been making advances, though not completely and legally safe, on the theory that a man who has a good payment record, an equity in his home, and the ability to pay is a good credit risk, and lending to him is sound business.

There can be no doubt that the installation of an oilburner, the replacement of an oilburner or oilfired heating plant, or a complete oilfired heating system is eligible for financing under the open end mortgage. Dealers are urged to investigate the possibilities of such financing in their communities.

Oilheating Waterloo

Traditional Coal Enthusiasts, Young Also Leads in Fueloil

by
Henry D. Crane

IN THE AUGUST ISSUE it was noted that the growth of oilheating has been greater since the war in the Midwest States than in the East. The reasons were not elusive. The East got so many more burners before the war that it was that much nearer saturation, and the agricultural prosperity of the country has been some 25% greater than that of other broad income groups. Agriculture means largely the corn and wheat belts.

Waterloo, Iowa, for some years has been showing up in oilheating industry reports as a good market. Three prominent companies were being mentioned. These were Brinkerhoff, Moore and Young. Running into Dick Young at two recent national oil or oilheating industry meetings, brought a curiosity to stop at Waterloo the first time in the area to look at the market.

For its population, 77,000, Waterloo has been good to all forms of automatic heating. In the four years from the end of the war to the half year point in the summer of 1949 there have been installed approximately 1,796 oilburners, 860 stokers and 717 gas heating jobs, a total of 3,373. This includes an estimated 20% for suburbs on oilheating and stokers, but no addition on gas which is in the city only. By years the permits issued within the city limits were:

	Oil	*Gas*	*Stokers*	*Total*
1945	94	97	145	336
1946	310	339	266	915
1947	575	126	116	817
1948	325	66	152	543
½ 1949	193	22	38	253

For a time gas was doing a good selling job in spite of its high fuel cost, while stokers didn't do very well with their very low fuel cost. Stoker coal of 12,500 Btu per pound sells for $13.00, gas for heating at $1.03 per thousand for a 650 Btu gas, or 15.8¢ a therm. Without making allowances for variation in equipment or efficiencies, fueloil at 11.4¢ a gallon is 49% cheaper than gas for heating and 57% higher than stoker coal.

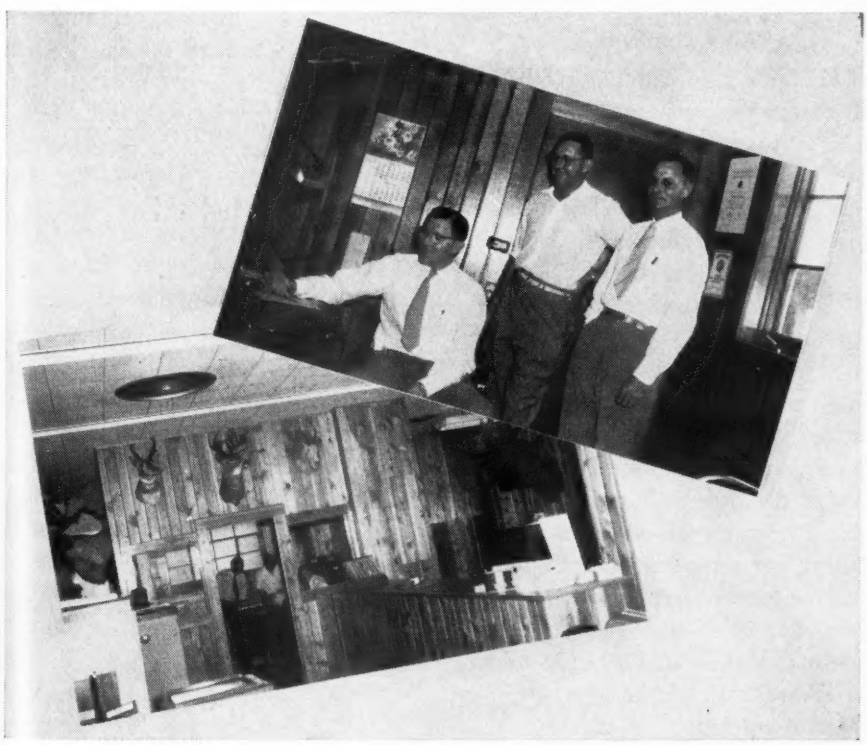
Young Coal Co. started business in 1882, started selling fueloil in 1928. Its present annual sales of three million gallons represent about a third of the market. There are about 4,500 oilburners in the city and suburbs with 40% of these put in since the war.

Storage Nears Half of Year's Sale

With one and a quarter million gallons of storage capacity, the company can store nearly half of its annual needs. This seemed an odd situation in a market where the winters are open, but an addition of 650,000 gallons made this year resulted from two unhappy events. Last year product was short and Young paid a high price to cover its needs, largely because the company has always been an open market buyer. This year the reverse happened. The spot price was very low and Young paid 2¢ under posted prices for most of its summer purchases, but it didn't get the new capacity finished in time to get full advantage of the savings. The brothers feel that in future years it will be possible to get enough summer bargains in their area to justify the storage investment. They are well located to be spot buyers . . . in short hauling distance of the smaller Kansas and Oklahoma refineries that regularly do a spot business.

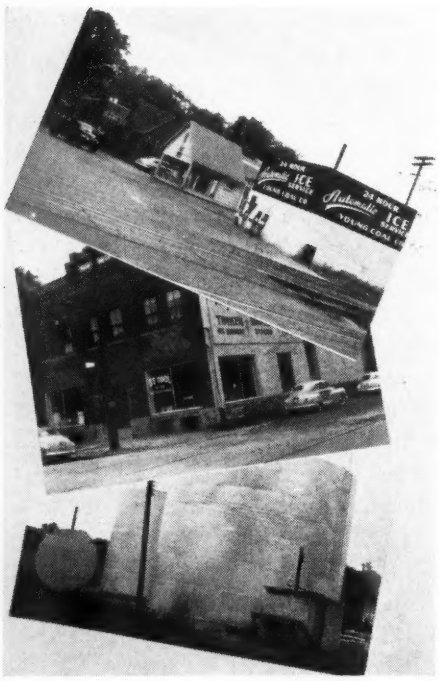
Young doesn't go after a strong rural business but its trucks will go as much as six or seven miles outside of the city. Country business, they point out, is half done by co-ops, which are hard to buck.

The company has eight oil trucks and in summer months converts four of these to ice bodies, thus keeping down insurance and maintenance costs that are charged to fueloil. In the fiscal year April 1, 1948 to March 31, 1949 the fueloil delivery cost was .5342¢ per gallon, amazingly low, but that was fortunate since margins in that difficult period had averaged only 1.7525¢. This year, because of the favorable spot mar-



Offices *of Young Coal are attractively panelled, with game trophies much in evidence. The men are, left to right, Bob, Dick and John Young, who operate the business that was started by their father in 1882. Bob is in charge of coal and oil marketing; Dick has the heating and appliance business; John is the financial administrator.*

Duct shop *in Young Heating building handles the sheet metal parts of all installations, gives Dick Young full control of the quality of the jobs. Two-thirds of the company's sales are complete units, mostly warm air.*



Facilities *of Young Coal Co. and its subsidiary Young Heating Co. are strung out over town. Top is the coal yard and fueloil office. The automatic ice dispenser is quite profitable though the machinery to operate it cost $7,000. People drive up in cars, put 25¢ or 50¢ in a slot and out comes ice in two sizes or packages of cubes. There is no attendant in the building. Center photo is the heating and appliance shop, and below is a new addition to Young's fueloil storage just completed. This plant has 650,000 gal. capacity; three other Young plants in town bring the total to one and a quarter million gallons.*

ket they are higher. Fueloil drivers get $1.10 with overtime over 40 hours.

Most of Young's oilheating sales are Timken, with the small conversion job selling at $420. The principal competitors sell small gun burners at $350. With two-thirds of Young's new sales having firing rates of .75 Gph or less, the small home influence is evident, and average fueloil requirements on the new jobs are under 1,500 gallons.

Dick Young, in handling the heating division of the company, puts emphasis on an active sales force. There are presently eight salesmen in two crews, each with a supervisor, and they work on commission with drawing accounts. In the four months, February to May, they spend most of their time canvassing, house to house, and build up leads for later summer and early fall closings. These men can also sell appliances and kitchen cabinet work, likewise space heaters, and they can take orders for service department summer cleanups, but they cannot sell oil or coal. Six oilheating salesmen trained by Young in recent years have gone into business for themselves in other towns within a 50 mile radius of Waterloo. Thus oilheating spreads through the corn belt in the hands of good men.

Waterloo will probably remain a good market, for its principal income is tied to the soil, and after what the farmers did for President Truman in the last election there's not much danger of either party repealing farm price supports in the early future. The city's big industries are Rath Packing Co. and John Deere Plow Co., each employing seven to eight thousand persons. The city and its suburbs are about 25% oilheated while another 20% of families have gas or stokers, so that's still a lot of fruitful selling to be done.

◈

Building Awards Hit New High In September

RESIDENTIAL building contract awards in the 37 states east of the Rocky Mountains totaled $525,572,000 in September, according to F. W. Dodge Corporation, representing a 34% gain over August and 88% over September of last year. Private residential building accounted for 96% of the September volume. Substantial gains were reported both for single family dwellings and for apartment houses.

Total construction awards in September totaled $1,093,724,000 the highest for a single month since June 1942 when wartime construction was at its peak.

It was the second time in the Dodge statistical series dating back to pre-boom years in the Twenties that more than a billion dollars in awards were reported for a single month in the thirty-seven eastern states, the corporation reported.

September's record volume cancelled deficits of earlier months to bring the cumulative dollar volume for the first three quarters of the year to 1% higher than last year.

◈

D. W. Norris, president, Lennox Furnace Co., died suddenly in Columbus, Ohio on October 5. At the time of his death he was 73 years old. Mr. Norris purchased a controlling interest in the Lennox Furnace Co. at Marshalltown, Iowa in 1904. In the intervening years he not only expanded the Marshalltown plant, but acquired or built factories at Syracuse, N. Y., Columbus, Ohio, Decatur, Ga., Fort Worth, Tex., Pasadena, Calif. and Salt Lake City, Utah. He also was principal owner of the Armstrong Furnace Co. and the Lima Register Co. His son, John W. Norris, is vice president of Lennox and his son-in-law, E. C. Booth, is secretary-treasurer.

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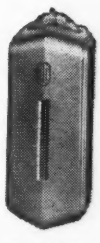
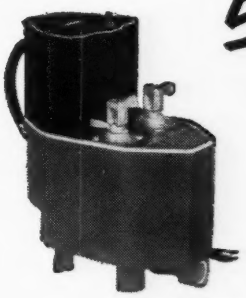
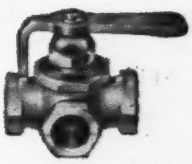


Detroit No. 411-PH Thermostat — Provides accurately leveled temperature control.



Detroit CRC-239-P and CRC-239-PF Add-On Controls—For operation of space heaters and floor furnaces.



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Detroit CRC-433 Fuel Transfer Pump—Supplies fuel automatically from main tank.

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Oilburner Exports Show Decline from Recent Highs

POSTWAR EXPORTS of oilburners and parts from the United States have been characterized by drastic changes—extraordinary expansion in 1947 and severe contraction in 1948, according to A. M. Rosenthal, acting chief of the Building Materials and Hardware Section, Office of International Trade, U. S. Department of Commerce. Writing in the September 1949 issue of *World Trade in Commodities,* Mr. Rosenthal points out that the value of oilburner exports in 1948 dropped 75% to $3,976,851 from $15,905,896 in 1947. The 1948 value, however, exceeded the 1939-48 ten year average of $3,212,779 by 23%.

Foreign trade in oilburners has been affected to a marked degree by foreign import controls and other regulations; some designed to restrain or to direct the use of petroleum fuels and others to conserve dollar exchange.

Annual exports of oilburner equipment declined from $1,085,111 in 1939 to a low of $439,644 in 1942, due to effects of war. An upward trend started in 1943 and by rapid rises reached its peak in 1947. Monthly exports reached a maximum value of $1,825,612 in July 1947, but foreign controls and fuel shortages began to be felt in the last half of 1947 and exports declined to a new low of $142,362 in November 1948. Since then the trend has been upward, though the 1949 total for the first five months is below the 1948 level for the same period.

Some of Mr. Rosenthal's comments on individual countries follow:

Sweden

To Sweden, more than any other single country, can be ascribed the falling off in United States exports of oilburning equipment after 1947. Value of United States exports to Sweden declined from $4,827,917 to $113,418 in 1948, a drop of $4,712,499—equivalent to 97.6% of the 1947 shipments to Sweden, and, almost 30% of United States world exports in that year.

The reason for this development was, of course, shortage of dollar exchange, which has caused Sweden to impose severe import restrictions on both oilburning equipment and petroleum fuels. Large stocks of oilburning units were reported unsalable in Sweden in 1948 because of fueloil shortages.

Declining Swedish exports of wood pulp and paper to the United States and other hard-currency areas have contributed toward the exchange difficulties.

Netherlands

The lack of foreign exchange to purchase liquid fuels and burners is fundamentally responsible for declining markets for such products in the Netherlands. United States sales of oilburners and parts to that country dropped from $339,698 in 1947, to $186,963 in 1948. A comparison of exports to the Netherlands in January-May 1949 with the like period of 1948 indicates a furher reduction of approximately 87.5%.

The Netherlands Ministry of Economic Affairs reported in March 1949 that no licenses had been issued for the import of oilburning equipment for the previous 6 months. Nonautomatic oilburners are made in the Netherlands or can be obtained from the sterling area; hence it does not appear likely that import licenses will be issued for this U. S. equipment. Domestic coal production has reached a high level and the Government is urging use of coal.

Norway

Prior to World War II, domestic oilheaters were used in limited numbers. Coal was less expensive than fueloil and used in most industrial installations. After the war, coal became more expensive, quality deteriorated, and supply was curtailed. Hence, conversion to oilburners accelerated until, in 1947, United States exports of oilburners and parts amounted to $600,491, seven times greater than in 1939. Exports in 1948 declined from that peak to less than the 1939 level and the 1949 outlook is not optimistic.

The revenue of Norway is derived principally from the export of fish and pulp. The United States and Canada were the best markets but Norwegian prices subsequently proved high. At the same time, domestic production rapidly improved in the United States and Canada, resulting in a very substantial reduction in imports from Norway and a consequent shortage of dollar exchange.

Bilateral agreements between Norway, the United Kingdom, and Poland provided, among other items, coal for the Norwegians. A substantial source of coal supply is located at Svalbard (formerly Spitzenbergen), a possession about 750 miles north of Norway. There is now a very definite movement in Norway toward the use of coal.

Canada

Imports into Canada of all apparatus designed for cooking and for heating buildings were completely embargoed on November 18, 1947. Early 1948 imports

Exports of Oilburners and Parts

Year	*Domestic conversion oilburners and oil-fired boilers*		*Industrial conversion oilburners and oil-fired boilers*		*Domestic and industrial oilburner parts*	*Total, oilburners and parts*
	Quantity	*Value*	*Quantity*	*Value*	*(Value)*	*(Value)*
1939	4,990	$ 544,102	2,290	$ 298,351	$ 242,478	$ 1,085,111
1940	2,969	348,374	1,812	246,056	243,445	837,875
1941	2,143	201,559	1,662	250,906	332,322	784,827
1942	926	87,992	1,729	211,838	139,814	439,644
1943	707	67,533	1,103	220,085	238,677	526,295
1944	787	85,595	1,519	276,933	368,150	730,678
1945	6,770	494,830	3,326	747,663	1,056,848	2,299,341
1946	40,912	2,349,512	6,489	1,258,566	1,933,194	5,541,272
1947	58,698	7,141,113	22,849	5,006,639	3,758,144	15,905,896
1948	7,454	969,971	4,815	1,928,690	1,078,190	3,976,851
Total	126,536	$12,290,621	47,594	$10,445,907	$9,391,262	$32,127,790

Source: U. S. Department of Commerce: 1939-45, Foreign Commerce and Navigation of the United States; 1946-48, preliminary reports of the Bureau of the Census.

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Exports by World Areas

	Domestic Burners and Units			*Industrial Burners and Units*		
	1939	1947	1948	1939	1947	1948
No. North America	1,157	22,801	1,174	570	5,355	334
So. North America	94	1,647	741	313	2,223	787
South America	529	3,740	997	518	3,362	1,333
Europe	2,758	28,560	3,795	782	10,733	971
Asia	244	933	631	49	902	801
Oceania	48	318	82	13	87	7
Africa	160	700	134	46	187	82
Total	4,990	58,698	7,454	2,290	22,849	4,815

were permitted only on a hardship basis. Effective June 5, 1948, imports were permitted at a rate equivalent to 250% of the average dollar value of imports in the 3 years 1937-39. Import allotments on parts are issued on the basis of 12 months imports during the base year ending October 31, 1947. These allotments vary with the needs of individual firms and are issued on a dollar basis.

Restrictions on imports were imposed not only to conserve United States dollar exchange, but to limit consumption of fueloils to supplies available. Insufficient fueloil storage facilities and transportation, as well as restricted shipments from the United States, have caused difficulties during recent winters in delivering sufficient fueloil to homes.

Canadian production of burners and parts has become definitely well established. The industry relies considerably on the United States as a source of supply of certain parts and subassemblies. Some of the manufacturers are subsidiaries of United States oilburner corporations.

United States exports of oilburners and parts to Canada in 1948 were only about 16% of the high exports of 1947. Despite this decline, Canada is currently the principal United States export market for oilburning equipment and exports in the first 5 months of 1949 increased about 96% over the same period in 1948. Current exports, however, consist largely of parts, whereas 1947 exports predominantly were complete domestic units.

Before selling in the Canadian market, Canadian manufacturers and United States exporters of oilburners customarily have their product approved by the National Research Council of Canada, a governmental agency located at Ottawa. This approval is not required by the Government but is considered by the manufacturers as a desirable indorsement. However, some Provinces have enacted legislation requiring National Research Council listing for oilburner equipment originating in the United States. Those inspections are conducted at the warehouse of the main distribution point of the Canadian agent.

Latin America

Although oilburner exports to Latin American countries generally declined in 1948, markets in those areas have been generally more stable than those in Europe and Canada. About 44% of the total United States exports in this group went to Latin America (Southern North America and South America) in 1948 as compared with 16% in 1947. Exports to Curacao, Venezuela, Chile, and Peru were higher in the first 5 months of 1949 than in the same period of 1948.

Demand in Latin America has been chiefly for industrial burners. Following are brief discussions of the market situations in some of the more significant importing countries.

Mexico—The Mexican market for domestic oilburners is limited to Mexico City and the high and cool regions of the Central Plateau. Oilburners are manufactured to some extent, using imported machined parts to complete domestic assembly.

That United States exports of industrial burners to Mexico have been com-

OHI Directors Hear Report On Oilheating Promotion

DIRECTORS of Oil Heat Institute, meeting at Chicago October 20, heard reports on industry promotion, personnel seelction and plans for the convention and exposition at Philadelphia, April 24 to 28, 1950. No action was taken on the replacement of A. E. Hess as managing director other than the appointment of a committee to consider the subject and report its recommendation to the next meeting of the Board at New York in January.

A reasonably prompt acceptance of the Distribution Division's advertising materials was reported by W. O. Speiss, national secretary. He said the high level of activity among dealers at present had slowed the use of advertising in many areas. Dealers report they are so busy at this time of year they could not take additional business. For this reason it is expected the materials will be in greater demand when the fall activity is completed. Broader promotional activities were discussed, but no action was taken.

Materials to aid in the selection of sales and service personnel also were presented. The material is designed to guide the dealer in his interviewing and score the applicant on his eligibility as a candidate for employment. Forms for applicants for both service and sales positions are simple. No attempt is made to employ true aptitude testing, but only to guide the interviewer in scoring the man to eliminate those who have little chance for success. Materials will be distributed to their dealers by subscribing oilburner manufacturers.

Preliminary plans for the convention and show next April were discussed. The show will be held at Convention Hall, Philadelphia, and the Benjamin Franklin Hotel will be convention headquarters. Bids were received from Cincinnati and Milwaukee for the 1951 convention, but no action was taken.

Plans are underway for the annual banquet, and the Accessory Division is planning a luncheon for manufacturers and dealers and their guests, featuring a prominent speaker on economic affairs.

The next meeting of the Board will be at New York, January 10, 1950.

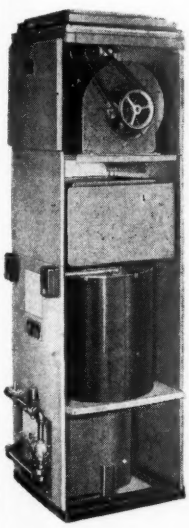
For the Home Without a Basement

Luxaire's NEW

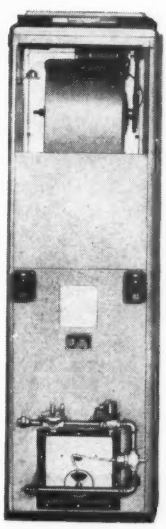
Counterflow Air Conditioning Units

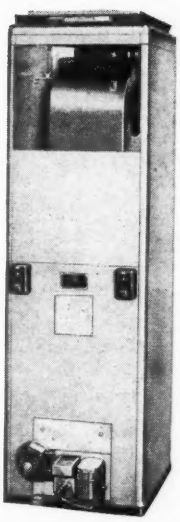
For Either Gas or Oil

Interior view of Counterflow unit with Gas Burner installed.



No. GHC-95-E, Gas Counterflow Air Conditioning Unit 76,000 BTU at Discharge Outlet.





No. VHC-75-E, Oil Counterflow Air Conditioning Unit 75,100 BTU at Discharge Outlet.

Luxaire Counterflow units provide low cost, efficient heating installations in homes where ducts are embedded in, or placed under a concrete slab floor.

Installation is easy and quick. With the blower installed in the top of the cabinet, the unit is placed directly over a pit or plenum chamber, provided in the floor slab. When the furnace operates, warm air is discharged downward through the unit into the pit or disbursing chamber provided in the concrete slab floor.

Luxaire Counterflow units are designed and constructed to burn either Gas or Oil and provide highly efficient results with either fuel.

These units are factory assembled and shipped ready for the installation of either the Luxaire Multi-port, Gas Burner or Luxaire Pressure Vaporizing Oil Burner.

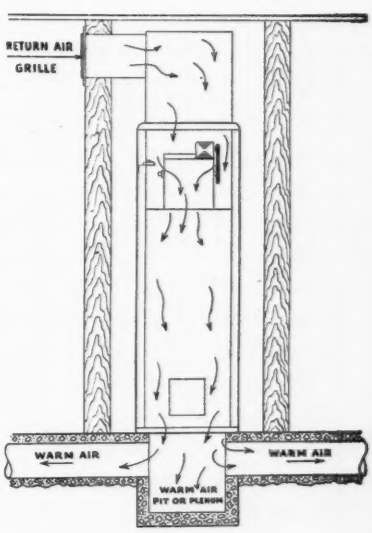


Diagram of Counterflow Unit In building with Concrete Slab Floor.

THE C·A·OLSEN MANUFACTURING COMPANY

Luxaire HEATING & AIR CONDITIONING UNITS

ELYRIA 12, OHIO

fueloil & oil heat

paratively well maintained during recent years, despite serious Mexican exchange difficulties, is attributable to the conversion of commercial and industrial installations to fueloil. Conversion to oil has been hastened by the relative scarcity of coal; the Government's forest preservation program, reducing the use of wood and charcoal as a fuel; and more widespread use of fueloil, in which Mexico is relatively self-sufficient.

There are no indications of further restrictions in this market, so that the current rate of exports from the United States appears to approximate the level of oilburner trade.

Brazil—The demand for domestic oilburners is believed to be limited, inasmuch as central heating plants are not generally used. Industrial oilburners in 1947-48 represented 67.5% of United States exports of burners and parts for both years to Brazil.

A "positive" list of import commodities was issued in July 1949, including as principal items machinery, parts, and raw materials. Import licenses are issued to cover only items on this list. The present lower rate of United States exports of this equipment is not expected to increase significantly within the next few months.

Argentina—United States exports of oilburners and parts to Aregntina in 1947 were $811,865 but in 1948 they declined 65.6% to $277,402.

In February 1948, evidence of the scarcity of foreign exchange became apparent. This resulted in the complete suspension of imports from the United States the following June. The acceptance of oilburning equipment imports beyond this time represented outstanding permits of long duration.

During the war, because of the scarcity of coal, Argentina was forced to use oil. As of today, however, a campaign has been inaugurated to promote the use of gas and gas equipment.

Summary

Only 7 of 26 areas are currently purchasing oilburning equipment from the United States at a greater rate than in 1948. Canada's purchases show a substantial net increase due to greatly enlarged purchases of domestic-type equipment and parts. Exports to Venezuela have increased in all categories. Chile, Curacao, France, Iran, and Hong Kong comprise the remaining areas of increase.

Notwithstanding the imposition of controls in various foreign countries, the downward trend of exports appears to have been halted. A simple projection of the current rate of exports indicates the probability of an increase over 1948 in the 1949 value of exports subject, of course, to a continuation of present price levels and the implications inherent in the present world political and economic picture.

The million-dollar markets of the peak year of 1947 have disappeared and even hundred thousand dollar areas are few. However, the present rate of exports indicates the dollar value of the export market in these commodities to be about four times the value of 1939 and somewhat less than double the 1945 level.

Exporters of this equipment will, however, probably find fields for promotional endeavor as the trend toward industrialization gains headway in foreign countries and as nations seek to protect diminishing forest and coal reserves.

Announce Two-Day Program For Warm Air Convention

ANNOUNCEMENT of its 36th Annual Convention program has been made by the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio. The two-day gathering will be convened at the Hotel Cleveland on December 14 and 15, with the program consisting of events and speakers designed to impart information of far-reaching importance. All persons connected with the warm air heating industry are invited to attend the sessions.

Atlee Wise, president, Wise Furnace Co., Akron Ohio and Association president, will call the convention to order. The initial speaker will be Charles E. Price, *American Artisan,* whose talk, "Distribution Trends in Warm Air Heating," will include a comparison of the dealer's situation this year, as compared with 1947. M. I. Levy, president, Viking Air Conditioning Corp. and chairman of the Publicity and Merchandising Committee, next will point out the committee's accomplishments during its six month consumer and industry publicity campaign and map plans for 1950.

"Credits and the Federal Housing Administration," to be discussed by Howard Hartman, L. J. Mueller Furnace Co., is to present a discussion of Title I loans and other parts of governmental aids to homeowners and builders. Nomination and election of officers and members to the board of directors will complete the morning schedule on December 14.

Opening the afternoon session will be the Honorable Robert A. Taft, U. S. Senator from Ohio. As announced previously his talk will touch on current developments and information of interest both to the warm air industry and labor.

House Beautiful's Climate Control Project (Oct. 1949 issue, page 84) will be presented to round out the afternoon meeting. Miss Elizabeth Gordon, Editor of *House Beautiful,* will introduce Dr. L. P. Herrington, research associate professor in Public Health, Yale University, who will talk on "Human Comfort and Air Temperature, Humidity, Movement"; James M. Fitch, Architectural Editor, *House Beautiful,* who will explain "Why many American climates offer new potentials to the warm air heating industry" and Henry N. Wright, architect and consultant, whose speech is entitled, "New systems and applications for year 'round use of forced warm air systems."

Convention sessions on December 15 will hear reports of the research activities conducted in cooperation with the University of Illinois during the early part of the 1949-50 heating season. Norman A. Buckley, special research assistant in mechanical engineering, University of Illinois, will report on the balance of winter air conditioning systems when total air quantity at furnace is varied and Morris E. Childs, special research assistant, will deliver a prelimi-

(*Continued on page 76*)

Here's Why *H. C. Little* Means Steady Volume, High Net Profit

Steady volume, minimum service and high net profit are enjoyed by H. C. Little dealers. Public preference for H. C. Little FULLY AUTOMATIC operation with NO PILOT LIGHT clinches sale after sale.

Look at the simple controls... follow the operation cycle... see for yourself why the H. C. Little oil burner, with automatic *self lighting* electric ignition, has a BIG competitive advantage.

H. C. LITTLE Automatic Oil Burner

Vaporizing type oil heating equipment is widely accepted as most practical for heating the typical home. Of all vaporizing oil heating equipment, H. C. Little is the only complete line with these three unique features:

1. Automatic self lighting electric ignition—NO PILOT LIGHT.
2. Catalytic heat control that gives improved burner performance and lower fuel bills.
3. The oil burner designed on the Progressive Low Temperature Carburetion principle, to eliminate high temperature "cracking".

By playing up these features and using them in competitive selling, H. C. Little dealers maintain steady volume at fair prices and insure high net profit.

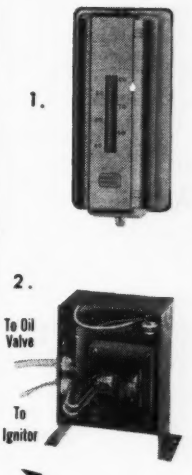
Address inquiries regarding dealerships to Dept. 11.

H. C. Little Burner Company **SAN RAFAEL, CALIF.**

Or contact the Factory Representative nearest you:

Baltimore, Md.
Belmont, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga
Detroit Lakes, Minn.
Fayetteville, No. Car.
Kansas City, Mo.
Larned, Kansas
Newark, N. J.
Portland, Oregon
Prescott, Ariz.
Reno, Nevada
Salt Lake City, Utah
Seattle, Wash.
St. Louis, Mo.
St. Petersburg, Fla.

POWERFUL SALES BUILDING STORY TOLD IN SIMPLE CONTROL & OPERATION CYCLE



1.
ROOM THERMOSTAT, actuated by temperature drop, makes electric circuit through...

2.
AUTO-TRANSFORMER, which supplies proper voltage to (a) open the automatic oil valve and (b) heat the electric ignitor.

3.
HEAT MOTOR on top of oil valve opens slowly, allowing oil to flow to the burner.

4.
Oil enters burner at relatively cool end and thus is prevented from high temperature "cracking". The soundness of this H. C. Little "Progressive Low Temperature Carburetion" principle has been demonstrated in more than 160,000 installations over a 22 year period.

5.
3-VOLT ELECTRIC IGNITOR in bolted-on burner door becomes hot and ignites the oil.
THERMATIC DOOR automatically admits additional air to facilitate quick, easy starting WITHOUT mechanical air induction.

6.
CATALYTIC HEAT CONTROL regulates supply of air through roof of burner as flame increases after starting. Complete carbon-free combustion with catalytic oil is achieved and flame burns above the top burner ring inside combustion chamber.

7.
When required room temperature is reached, the thermostat contact breaks and THE BURNER IS COMPLETELY SHUT OFF. THERE IS NO PILOT LIGHT OR LOW FIRE STAGE. This is true, fully automatic operation, a big competitive advantage!

Oil Boiler Trouble

fueloil & oil heat
Short Short Article
on Burner Service

AFTER BUYING one boiler of a certain make from a supply house, a heating contractor wrote six nasty letters to the manufacturer condemning the boiler's design and performance.

Happening to be vacationing near the heating contractor's town, the sales manager of the boiler company went to see him.

The contractor's opening complaints all related to combustion. When he and his visitor arrived on the job, flame roar announced itself as soon as the burner was started. Soon after, the basement was filled with oil odor.

Opening the flame observation door while he proudly explained he had rear-fired the boiler to be able to see the oil spray from the nozzle, the contractor pointed out that with the door open the oil fumes that poured out were dense enough to make anyone close his eyes. His violent denunciations of the boiler had been caused by the agony it had given him, he said. Every time he had tried to adjust the burner better and had studied the flame through the open door, he had gone home choking from oil fumes.

Even after soot had ben cleaned from its element, the contractor said, the control panel on the smokepipe often stopped the burner; the owner had to get hot water and heat by pressing the safety button.

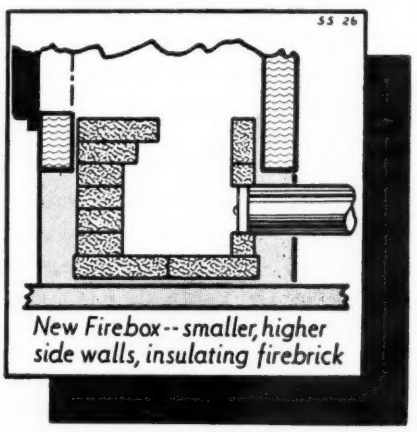
The sales manager of the boiler company first took new combustion test readings to satisfy himself. The CO_2 and stack temperature readings, taken in the way the contractor said he had taken his readings, were 5¾% and 580°, close enough to what had been reported. The over-fire draft was .03". The smokepipe draft was .06"; holding shut the draft regulator which was part of the smokehood of the boiler increased the smokepipe draft to .14".

The boiler salesman had been patient, quiet, and very polite up to this point, but now that was ended and he let out his opening blast.

"You've put an oversize, low-sidewall, no-good firebox in our boiler," he said. "You've overfired the boiler at 1.75 gph though it carries a light load. You've failed to seal air leaks, and you've got the cool, gassy fire aimed right at those leaks. You installed the stack control on the smokepipe instead of in the flue door opening we provide for it. You got screwy combustion test readings from the chimney side of the built-in draft regulator.

"You've had the nerve on top of it all," he roared, "to write us six insulting letters and to tell everyone for miles around that our boiler is a lemon!"

At the salesman's order, the 14" x 16" firebox with 12" high sidewalls was removed. Big air leaks in the base and around the flame door were sealed. A firebox of insulating firebrick, 12" x 13" and with side walls 16" high, was built.

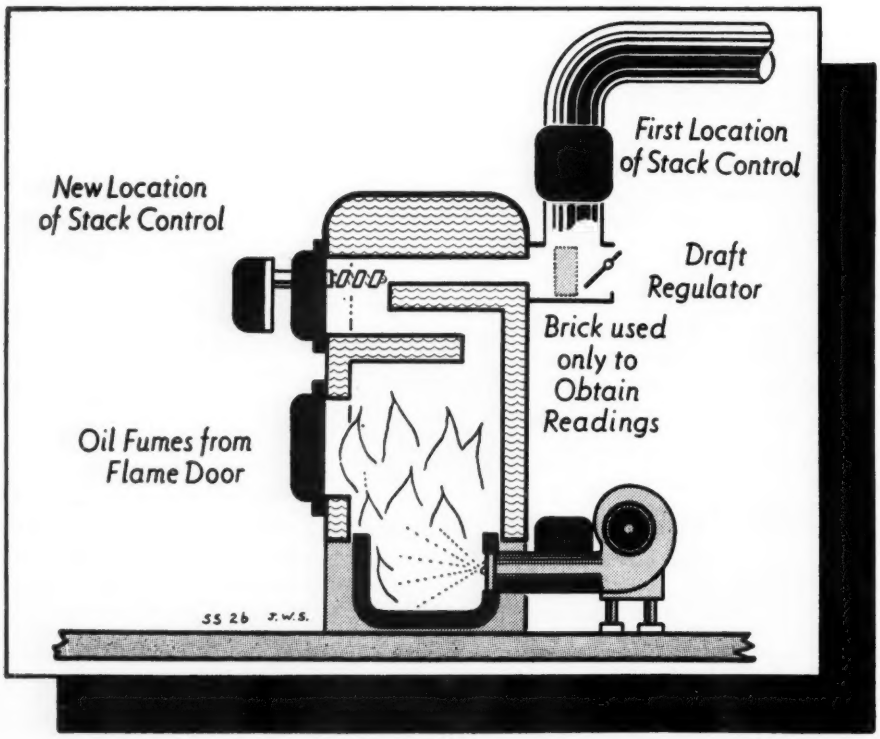


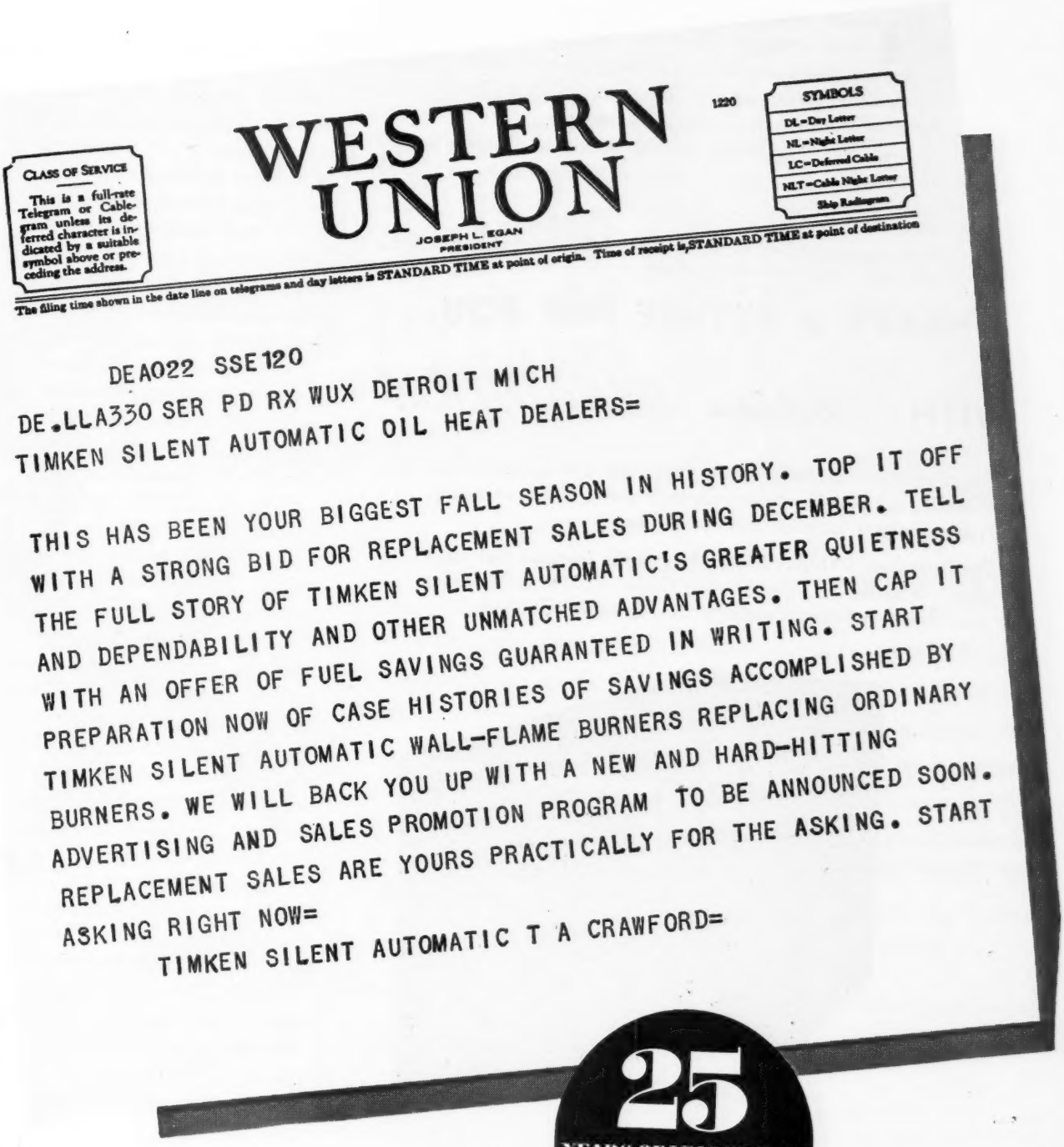
This had the rear-wall corbel shown in the diagram. A 1.35 gph, 80° nozzle was used. The stack control was installed on the flue clean-out door, where air admitted into the smokepipe by the built-in draft regulator would not interfere with its proper operation.

To read the stack temperature and CO_2, a smokepipe test opening was used. But the draft regulator was fastened in its closed position and sealed with damp asbestos cement, and a firebrick properly placed in the smokehood kept the over-fire draft down to .02" while these readings were taken.

The earlier firebox, which never became red-hot, had filled the boiler with soot and oil fumes.

The new firebox, reaching cherry-red heat when the burner ran five minutes, produced clean, completely - burned products of combustion. With the air leaks sealed, these did not flow into the basement. But, as the boiler man demonstrated, there were no oil odors or smarting of the eyes when these were forced into the basement by running the burner with the flame door open and the smokehood blocked to give plus pressure over-fire.


First Location of Stack Control
New Location of Stack Control
Draft Regulator
Brick used only to Obtain Readings
Oil Fumes from Flame Door
SS 26 J.W.S.



WESTERN UNION

JOSEPH L. EGAN
PRESIDENT

1220

CLASS OF SERVICE

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DEA022 SSE120
DE.LLA330 SER PD RX WUX DETROIT MICH
TIMKEN SILENT AUTOMATIC OIL HEAT DEALERS=

THIS HAS BEEN YOUR BIGGEST FALL SEASON IN HISTORY. TOP IT OFF WITH A STRONG BID FOR REPLACEMENT SALES DURING DECEMBER. TELL THE FULL STORY OF TIMKEN SILENT AUTOMATIC'S GREATER QUIETNESS AND DEPENDABILITY AND OTHER UNMATCHED ADVANTAGES. THEN CAP IT WITH AN OFFER OF FUEL SAVINGS GUARANTEED IN WRITING. START PREPARATION NOW OF CASE HISTORIES OF SAVINGS ACCOMPLISHED BY TIMKEN SILENT AUTOMATIC WALL-FLAME BURNERS REPLACING ORDINARY BURNERS. WE WILL BACK YOU UP WITH A NEW AND HARD-HITTING ADVERTISING AND SALES PROMOTION PROGRAM TO BE ANNOUNCED SOON. REPLACEMENT SALES ARE YOURS PRACTICALLY FOR THE ASKING. START ASKING RIGHT NOW=

TIMKEN SILENT AUTOMATIC T A CRAWFORD=

25
YEARS OF LEADERSHIP
1925
1950

TIMKEN
Silent Automatic
HEAT
OIL · GAS · COAL
TIMKEN SILENT AUTOMATIC DIVISION
The Timken-Detroit Axle Company · Jackson, Michigan

Accepted S A Standard
TRADEMARK REGISTERED

fueloil & oil heat

Warm Air Convention

(*Continued from page 72*)

nary report on investigation in the new Research Residence 3.

Guy A. Voorhees, application engineering director of the Association, is scheduled to reveal plans for a new series of two-day 1950 Indoor Comfort Conferences which are being arranged for throughout the country. Emphasized this year are to be studies of warm air heating for low-cost basementless homes and for larger non-residential heating installations.

Activity reports by chairmen of committees will include reports by F. L. Meyer, Meyer Furnace Co., of the Research Advisory Committee; W. D. Redrup, Majestic Co., Installations Codes Committee and Application Engineering Advisory Committee; C. W. Nessell, Minneapolis-Honeywell Regulator Co., Field Investigation Committee and Dean Lorin G. Miller, Professor, Michigan State College, Technical Education Committee.

Social activities planned include a banquet at noontime and a cocktail party during the evening of December 14.

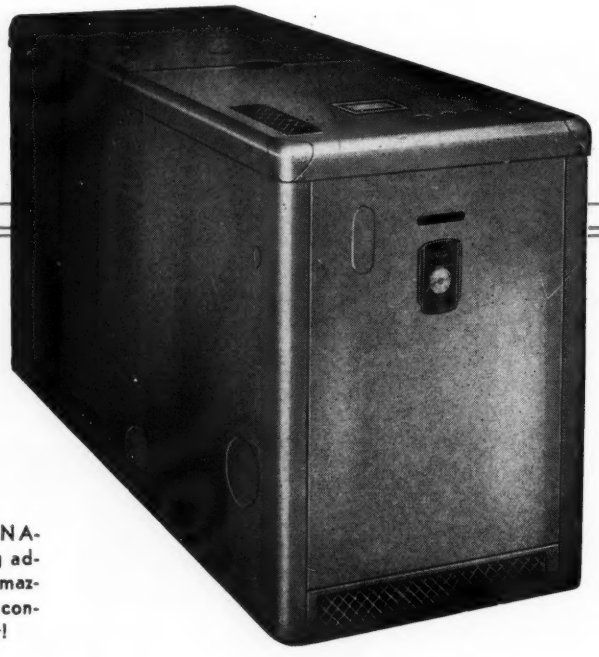
Preconvention meetings of the Association committees are to be held on December 12 and 13.

THERE'S A FUTURE FOR YOU

WITH *Bethlehem* DYNATHERM

The Bethlehem DYNATHERM CREATES SATISFIED CUSTOMERS . . . gives them more for their money in fuel economy, in compactness, comfort and convenience!

The Bethlehem DYNATHERM offers all the features that make your sale easier. . . . The Whirling Flame . . . Unit Engineering . . . "Thermos Bottle" Insulation . . . Beautiful Cabinet.



Despite the DYNATHERM'S outstanding advantages it costs amazingly little more than converting an old boiler!

A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.

BETHLEHEM FOUNDRY & MACHINE COMPANY

BETHLEHEM, PENNSYLVANIA

Service School Facilities Deplorable, Says Kaufman

"ABOUT THE BEST THAT CAN BE SAID for the facilities available, nationally, for the training of oilburner mechanics is that they are deplorable," G. T. Kaufman, technical secretary, has reported to Oil Heat Institute, after a survey of schools. A mail questionnaire was mailed to 164 schools in 89 cities of 22 states. Responses totaled 44, of which 23 were from schools offering oilburner courses, 15 from schools not offering courses, 5 from schools willing to consider inaugurating such courses with OHI cooperation and one contemplating initiating an oilburner service course.

"The distinguishing feature of the oilburner courses offered," says Mr. Kaufman, "is their inconsistency as regards length, cost, subject matter, objective and eligibility requirements. In length the courses vary from 25 hours for what might be called refresher courses, such as those offered by OHI of New England, to the 4,980 hour course offered by the Milwaukee School of Engineering in which oilburner work is a part of a complete course in electrical engineering, electronics, mechanics, etc., etc., leading to a degree in science.

"Costs run from no fee, or a purely nominal fee, for the courses offered by public schools, to an $1100 fee for the BS course. Of the trade school courses, many of which are patterned after the trade school standards set up by the Veterans' Administration, the average cost is approximately 60¢ per hour. These courses vary in length from approximately 240 hours to 850 hours, the shorter ones costing more per hour and the longer ones less.

"Schools feeling the need of courses of training in oil burner work set them up in such a way that they can be combined with other courses with the least confusion and upsetting of existing school facilities and layout. A school that has in the past trained electricians will establish its oilburner course along

"X"-TRA read all about it!

Yes, famous "X" LIQUID has been the lifesaver of failing heating systems for 30 years . . . it flows to the leak in the boiler with the circulation of the water and with its amazing colloidal action, instantly takes up the leak from the OUTSIDE! Not just a temporary repair, but a sound, lasting seal that puts the boiler back in business for steady, winterlong service. "X" also seals sand holes, poor threads, split nipples as well as cracked castings. "X" positively contains no harmful solids to retard good water or steam circulation. It's quick, it's safe, it's CERTAIN! Have "X" BOILER LIQUID and the other famous "X" Heating System Service Products ready for your service calls this winter.

Other FAMOUS "X" Heating System Service Products

"X" PIPECUT OIL
A special blend for work on all types of fittings. Keeps parts cool and covered.

"X" FLUSH & RUSTOFF
The combination package. FLUSH to clean the boiler . . . RUSTOFF to keep it clean.

"X" PIPEJOIN
Guaranteed leakproof for cold and hot water lines. The ideal filler and lubricant.

WRITE for the FACTS

"X" LABORATORIES, INC., 25 WEST 45th ST., NEW YORK 19, N. Y.

the lines of its electrical courses, etc.

"It is probable that consistency in oilburner courses among various schools can be established if the industry will (1) draft standard courses covering the things an oilburner man is supposed to know and make them available to all schools desiring them or, (2) outline the things the industry desires oilburner men to know and publicize the outline so that schools may draft suitable courses of their own. Until such time as something along these lines is done schools offering oilburner courses may continue to have difficulty placing their students in the industry, and the industry may continue to refuse to accept much of the output of such schools for the reason that the students lack sufficient training."

Canada Drops Sales Tax On Fueloils; Prices Down

ELIMINATION of the 8% federal sales tax on fueloils was announced by Canadian Finance Minister D. C. Abbott, effective October 21. The sales tax is removed from all petroleum-base oils for heating or lighting in homes or industry, but remains on fuels for internal combustion engines.

"There is at present no sales tax on coal, coke, wood, gas or electricity, and there has been some element of discrimination in keeping it on these fueloils both for domestic and industrial use," Mr. Abbott said.

The removal of this tax on fueloils will reduce costs of production and remove the element of discrimination in those industries, particularly certain sections of the pulp and paper and steel industries, where fueloil rather than coal is principally used for fuel.

"It should serve as well to enlarge the market for oil producers in Western Canada who now are reaching the position where current output exceeds their present marketing facilities. It should also largely offset the recent price increases arising out of the premium on United States dollar."

Mr. Abbott said the loss in revenue as a result of this tax change would probably be about $10,000,000 in a full year. For the remainder of this fiscal year, ending March 31, 1950, the loss will amount to about $4,000,000.

Imperial Oil, Limited, announced, effective midnight, October 20, prices of heating and lighting oils would be reduced "in order to pass on the benefits of the removal of the sales tax on these products."

Other oil companies said that any reduction at the consumer's level in the price of fueloil as a result of the Budget cut in the eight per cent sales tax may not be felt for some time.

Roy E. Wagar, president of National Petroleum, Limited, said that tax was included in the price of oil at the time it left the refinery and most retailers had already ordered their winter's supply.

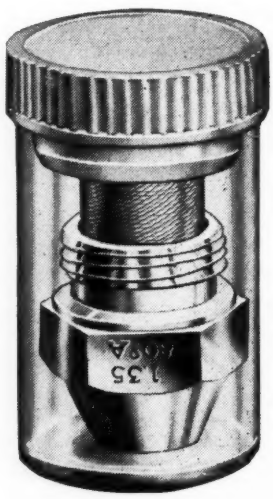
The Imperial Oil statements on reductions said:

"The reduction per (Imperial) gallon on furnace oil is 0.90 cent, stove oil 1 cent, kerosene 1.30 cents, lighting naphtha 1.50 cents, incubator oil 1.50 cents and heavy oil 0.50 cent."

The statement added that sales tax is levied on prices that do not include transportation charges, therefore adjustments are necessarily less than eight

New Containers for DELAVAN NOZZLES

You'll like the new-type plastic containers in which all Delavan nozzle tips are now being delivered. The containers are stronger, more transparent. The snug-fitting plastic cap is dust-tight, keeps nozzles cleaner; insures the superior performance that is built into every Delavan Balloffet Design nozzle.

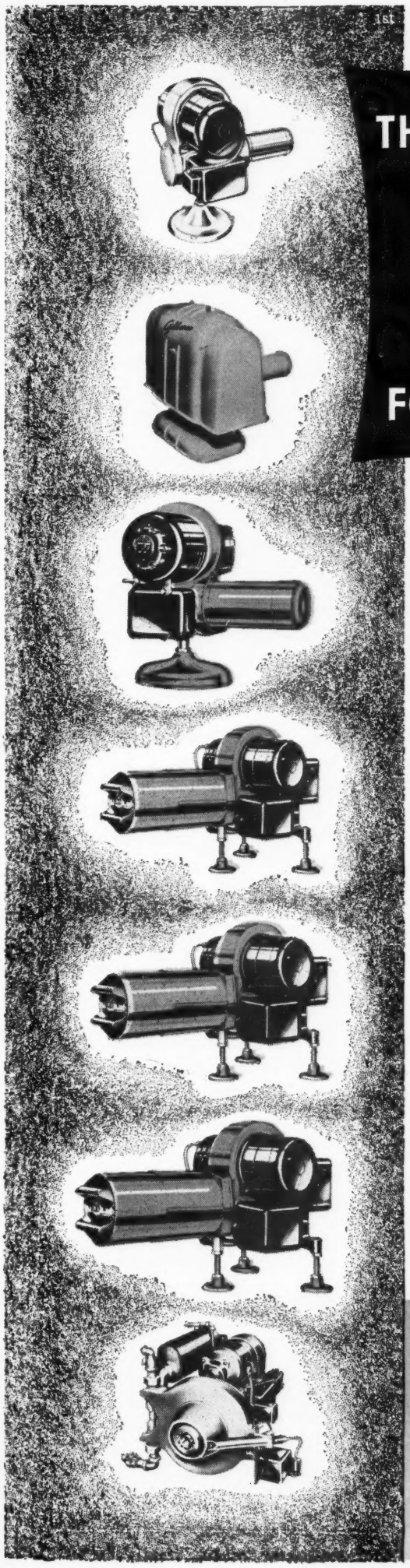


and Remember...

DELAVAN NOZZLES ARE NOW SELLING AT LOWER THAN PRE-WAR PRICES

DELAVAN MANUFACTURING CO.
3009 SIXTH AVE., DES MOINES 13, IOWA

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA



THERE'S A Gilbarco OIL BURNER FOR EVERY HEATING JOB

No need to pass up any kind of business when you handle the Gilbarco line. You've got a burner to fit every oil heating job. With six models of gun-type burners from ¾ to 25 gallons per hour, plus industrial burners from 15 to 110, you can sell a Gilbarco installation that will do the work and do it superlatively well — whether it's a speculative builder's development of four-room houses or a five-hundred-room hotel.

MODEL GBS — Low priced for the builder market, but a completely reliable, *famous-name* burner.

MODEL GCN — For the large volume home-owner market. A distinctive new model featuring top performance, greater accessibility and improved protection.

MODEL GC1 — For large homes and small commercial buildings which require from 2 to 4.25 gallons an hour.

MODEL GC3 — A burner for the extensive commercial field which uses from 5 to 10 gallons an hour.

MODEL GC4 — This is for the larger commercial and industrial jobs which need 9 to 14 gallons an hour.

MODEL GC5 — For large buildings and industrial installations firing No. 2 oil at 12 to 25 gallons an hour.

HEAVY OIL MODELS — Fully automatic, semi-automatic and manual models firing Nos. 4, 5 and 6 oils at 15 to 110 gallons an hour.

And remember, all GC models are equipped with the patented and exclusive Economy-Clutch action — still the most powerful sales feature in the gun-type burner field today!

Line up with a complete burner and unit line that opens up to you the *whole* field of oil heating. Several valuable dealer franchises are open west of the Appalachians. A letter, wire or phone call will bring you complete information — fast!

WARM AIR CONDITIONERS—SUSPENDED & SURFACE FURNACES—CAST IRON & STEEL BOILERS

Gilbarco

THE OIL BURNER WITH THE ECONOMY CLUTCH

GILBERT & BARKER MFG. COMPANY
WEST SPRINGFIELD, MASS., AND TORONTO, CANADA

per cent of delivered prices to consumers. Special consideration, the company said, should also be given to an increase in freight charges.

OHI Protests, Cites Aetna Advertising As Unfavorable

AN EXCHANGE OF LETTERS between L. A. Casler, public relations counsel, Oil-Heat Institute of America, Inc., and the Aetna Insurance Co., Hartford, Conn., recently protested the use of an illustration in Aetna advertising that was considered unfavorable to oilheating.

The illustration (Oct. 1949 issue, page 60) depicted a dog in the basement of a home telling its pups to "scram" if the homeowner, shown in the act of turning on the oilburner switch, starts the burner without having it cleaned, because "there may be trouble." Copy in the advertisement stressed the necessity of having burners cleaned before turning them on for the heating season and concluded with the objectionable feature, a warning against possible danger and damage from fire and smoke that could result if the cleaning were neglected.

"I'm Mr. Webb's brother-in-law. I believe he's expecting me"

Mr. Casler in his letter to W. Ross McCain, president of Aetna, pointed out that while it undoubtedly was not the intention of the company to "knock" oilheating, many readers, on the other hand, in all probability would interpret the copy as criticism of oilburning equipment. Mr. Casler's letter ended with the hope that Aetna would try to do something to change copy in future advertisements.

The reply from Aetna came from F. Sidney Holt, assistant secretary, who explained the advertisement as one in a series the company has been conducting on conservation of life and property, particularly concerning electricity and the fire hazards it can cause, forest fire, matches, etc. "Certainly," the letter continues, "it is not the intention of any of our advertisements to 'knock' any equipment, but we do wish to instill in the minds of the public the necessity for proper care of equipment whether it be electrical, oil, coal or gas."

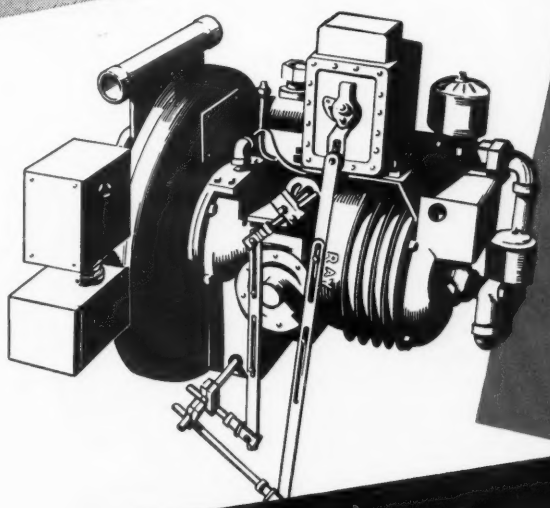
Mr. Holt declared that the advertisement had been placed with the publications in which it was scheduled to appear—*Time, Newsweek, U. S. News, World Report* and nineteen insurance trade papers—and remarked, ". . . we do not know how it could be altered to conform to our series and still get the message over in an unmistakable way."

W. O. Spiess, national secretary, Distribution Division, OHI, notified all members and all divisions of the advertisement and the protest the Institute lodged against it. He deplored the fact that the company elected to choose a fear approach in its treatment and cited the incident as "a good example of why all industry members should be observant of ill-considered reference to oilburning equipment or fueloil."

SMASH HIT!
KANTLEAK KITS
FOR OIL TANK INSTALLATIONS
THE RESULT OF MANY YEARS EXPERIENCE AND RESEARCH
TROUBLE FREE
LOW COST
COMPLETE IN ONE PACKAGE
KANTLEAK OIL TANK Kit
KANTLEAK PIPE SEALER
SINGLE HOOK-UP
DOUBLE HOOK-UP
THE PACKAGE THAT PACKS A WALLOP!
"KantLeak Kits" combine the proper fittings and filter to meet your needs. Custom designed, complete in one package, bringing in new sales and satisfying your present customers. With every sale and every installation . . . complete customer satisfaction.
See your local jobber or write for catalog.
ABC
KANTLEAK PRODUCTS
ANDERSON BRASS COMPANY
5305 TWELFTH STREET · DETROIT 8, MICHIGAN

COMBUSTION NEWS . . .

from the world's largest manufacturer of rotary oil burners



NOW!

This burner outmodes all present industrial and commercial combination burners. Heavy duty, fully automatic gas-oil combination of 65 Boiler h.p. already in production. Sizes up to 335 h.p. will soon follow. Completely protected by patents, it embodies every feature, including many new ones, of the finest Ray burners ever built.*

Two More Aggressive Oil Burner Salesmen Join Ray's World-Wide Dealer Family

Philadelphia industrial oil burner specialist James A. Vail and Harold Penney, effective at once, are distributing the entire Ray line of oil, gas-oil combinations, conversion burners, water heaters and furnaces in Philadelphia and adjacent communities. Another strong link in the ever-growing Ray chain.

There is a Place in the Ray Program for You.

C. V. Hendricks, oil and heating equipment dealer, writes: "We have heard of the many recent and pending developments in the Ray line. Are you interested in an aggressive outlet in this semi-industrial suburban community?" Mr. Hendricks, the answer is YES. In fact, dealers everywhere are invited to find out more about these developments in the famous Ray line.

For a look at the line, send for our short cut method of selecting the proper burner.

Write Ray Oil Burner Company, 401 Bernal Ave, San Francisco 12, Calif.

Ray Selector

*We are making and marketing these burners now. If you are an interested builder, engineer, architect or contractor who is interested in more information about these burners, or a dealer who thinks he can sell them, write, wire, telephone or come to see us at once.

RAY

Our 78th Year

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

Design Guide To Perimeter Warm Air Heating System

NATIONAL Warm Air Heating & Air Conditioning Association, Cleveland, has released a design procedure for the new perimeter warm air heating system. The procedure is entitled Form No. 5 "Warm Air Perimeter System" which outlines a method for heating low-cost single story slab-on-ground houses of not more than 60,000 Btu heat loss.

Form No. 5 is the industry's answer to the heating phase of the government's request for low-cost housing. Although the Association does not necessarily recommend or suggest that homes be built without basements, the perimeter system has been developed to heat, in a satisfactory manner, homes being built on concrete slabs. The system outlined in Form No. 5 is a split system combining both warm air floor panel radiant heating and convection heating.

The panel effect is achieved by 8" round galvanized ducts embedded in the concrete near the outer edges of the slab. These ducts are laid in trenches before concrete is poured to form one or two loops leading from a pit below the furnace location toward the outside walls and then parallel to the outside walls so that they enclose the entire floor area. Concrete is poured in such a manner that there is 2" underneath the ducts and 2" above. Where no ducts are embedded, the concrete slab is 4" thick. The convection effect is produced by introducing warm air from the ducts through floor or baseboard registers into the rooms.

Return air for this system is handled through high-wall return air grilles. A furred-down ceiling may be used as a collecting duct for the return air from the various rooms to the furnace return air plenum, or where home plans permit, grilles in the utility room walls can be used to handle the return air. A great part of the economy involved in this system is the short return air branches needed to serve the entire house.

The 4-page Form No. 5 is designed for use with the Association's Manual No. 3, entitled "Measuring Heat Loss." The cost of Form No. 5 is $6.00 per 100, with a minimum quantity of 50. Manual No. 3 costs 60¢ each. Order directly from National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio.

Pennsylvania Oil Jobbers Hold Three-Day Meeting

THE THREE-DAY convention, held by Pennsylvania Petroleum Association, Inc., Harrisburg, Pa., at the Bedford Springs Hotel, Bedford, Pa., October 9 to 11, was devoted to association business and open sessions where speakers discussed business and industry problems. New officers elected were: President, G. E. Philips of Lewiston, Pa.; Vice-president, M. D. DeTar of New Oxford, Pa.; Second vice-president, Martin Heine of Huntington, Pa., and Secretary-treasurer, Ralph Haller of Reading, Pa.

The open sessions held on the 10th included a morning session at which W.

NOW AVAILABLE FOR DOMESTIC OIL BURNERS!

REVOLUTIONARY AIR ATOMIZING, LOW PRESSURE PUMP AND NOZZLE

FITS ANY STANDARD HIGH PRESSURE OIL BURNER
Positive displacement Oil Delivery—30,000 B. T. U. up to 250,000 B. T. U. Large Orifices and Coarse Mesh Strainers eliminate any chance of clogging (even where dirty oil is used).

ADAPTATION OF A FULLY PATENTED PROCESS

PROVEN SUCCESSFUL FOR 10 YEARS IN THE INDUSTRIAL FIELD

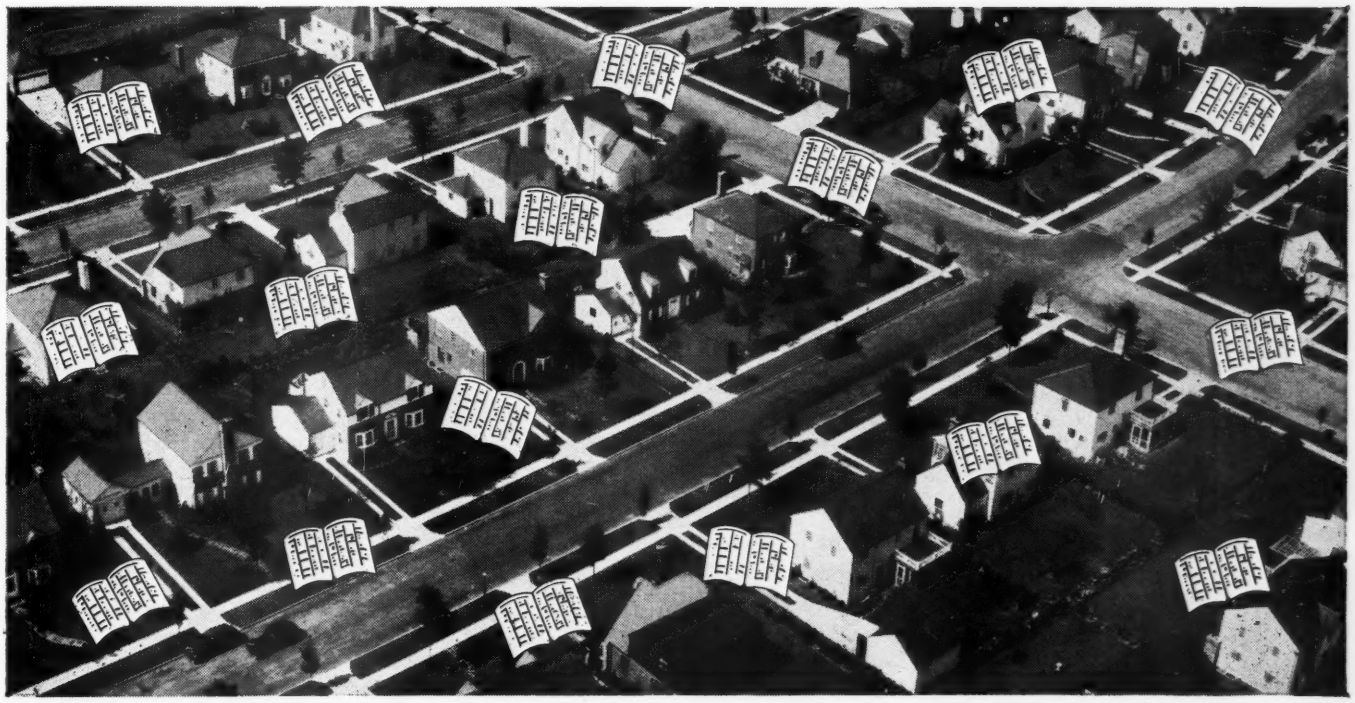
Manufacturer and Distributor Inquiries Invited

Write for particulars

WISCO ENGINEERING CO., 4029 W. Greenfield Ave.

MILWAUKEE 15, WISCONSIN

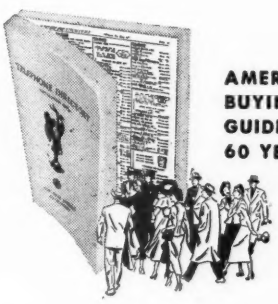
Where does a merchant get his customers?



FOLKS near his store... folks on the other side of town... newcomers and oldtimers... they're all prospects for the merchant who runs a growing business.

How can he reach them effectively? Through radio and newspaper advertising? Yes. Through window displays? Yes again. But to these important media he should add the buying guide that 9 out of 10 shoppers depend on... the 'yellow pages' of the telephone directory.

Your name and sales message in the 'yellow pages' work 24 hours a day... every day... to help guide prospects your way. Use this important buying guide to remind buyers WHO you are, WHAT products or services you sell... and WHERE you are located.



AMERICA'S BUYING GUIDE FOR 60 YEARS.

FOR FURTHER INFORMATION, CALL YOUR LOCAL TELEPHONE BUSINESS OFFICE

BELL SYSTEM

fueloil & oil heat

E. Black, Esso Standard Oil Co. of Pennsylvania and state chairman, Oil Industry Information Committee, covered the general situation in the industry's public relations program and pointed up reasons why more effective effort is required. He was followed by Robert Gray, business manager, FUEL-OIL & OIL HEAT, who advocated vigorous service merchandising and sales promotion campaigns as effective means of combatting the growing competition fueloil dealers are facing from natural gas. He said that cost alone is not the determining factor in selecting gas or oil for heating and declared that service, sales promotion and advertising can do much to overcome price advantages one fuel might hold over another. In addition, Mr. Gray pointed out that natural gas is not cheaper to ship than fueloil, but that it can be sold cheaply because of its low price at the well, where producers will do almost anything to get rid of it. Eventually, Mr. Gray explained, he felt that natural gas prices would be increased and that there was little danger of refiners losing interest in making and pushing fueloil because of temporary low demand and prices. The economic necessity is recognized of making fueloil to utilize the whole crude barrel.

Weldon B. Heyburn, auditor general, Commonwealth of Pennsylvania, was the speaker at the luncheon held on the 10th. His talk, "The business of state government," dealt particularly with government relations with the oil industry. At the evening banquet, G. D. McDaniel, general manager, eastern region, Socony-Vacuum Oil Co., in a talk entitled, "Speak up for our industry," urged more active participation on the part of oil jobbers in the industry's public relations program, emphasizing that local marketers are included in any attacks on the oil industry. He spoke at some length against the idea of industry divorcement, pointing out that jobbers have not been hurt in the industry growth through the years. He showed that while there were about 1,580 oil jobbers in the country in 1918, there now are 13,000, of which 1,400 are Socony jobbers.

Gene Flack, Sunshine Biscuit Co., spoke at the banquet.

PHIB Elects Officers; Hears Of Year's Expanded Operations

AT ITS thirtieth annual meeting, held October 4 in Chicago, George O. Toepfer, The Maag Co., Milwaukee, Wis., was elected president of Plumbing and Heating Industries Bureau, Chicago 1, Ill. Directors named and renamed to the board included: E. A. Cline, Trane Co., LaCrosse, Wis., representing the Convector Manufacturers Association; Carroll M. Baumgardner, National Radiator Co., Johnstown, Pa., representing the Institute of Boiler and Radiator Manufacturers; Harry F. Beglen, Chicago district sales manager, American Radiator & Standard Sanitary Corp., representing the company; E. J. Gossett, Bell & Gossett Co., Morton Grove, Ill., and retiring president of the Bureau, representing the Hot Water Heating Specialties Manufacturers; A. B. Martin, Chicago branch, Kewanee Boiler Corp., and representing the Steel Boiler Institute.

Retiring president, E. J. Gossett, explained that the Bureau, through its distribution of news and articles on the

EDCO'S S-252 FILTER

Gives 98 sq. in. of protection for complete satisfaction

There are no customer complaints when you install the S-252 Filter. Greater surface area filters out even microscopic oil impurities, prevents the sudden stoppage of oil burners. One cartridge lasts more than the normal heating season; costly callbacks are eliminated, servicing takes but a minute. The S-252 is light weight, sturdy, and interchangeable with other makes.

ORDER A SUPPLY TODAY

FLEXIBLE INSPECTION MIRROR

speeds up installations

Stainless steel mirror at the end of a 21" flexible handle, adjusts to any position for inspecting hard-to-see oil burner parts quickly and easily.

EDCO NOZZLES

stay clean longer

Large capacity Monel strainer protects orifice and slots from plugging. Each one is TRIPLE-TESTED for atomization, spray angle and actual rated capacity.

EDCO

EDDINGTON METAL SPECIALTY COMPANY
P.O. BOX K, EDDINGTON, PA.

GLOBE

HOT WATER CIRCULATORS

Triple Seal!

Quiet!

- ★ Hardened Steel Shaft, precision ground
- ★ Water Seal—Hardened stainless steel face to carbon
- ★ Extra-long, OILITE, oil-impregnated Bronze Bearings
- ★ Flexible Neoprene Coupling
- ★ 1/6 hp Westinghouse or equivalent Motor

These quality components, together with GLOBE precision engineering, make the quiet, rugged GLOBE Hot Water Circulator the most outstanding circulator buy in its class.

Tested!

Guaranteed

Manufacturers of Low Water Cut-Offs and Controls for a Quarter Century

Send for Catalog

GLOBE CONTROLS CO.

81 WARREN STREET, NEWARK 2, N. J.

EXCLUSIVE TERRITORIES AVAILABLE

REXOIL

THE PROVEN

OIL BURNER

That Does More—Does it Better

AT LESS COST!

BECAUSE High Heat Combustion Head
BECAUSE Air Stream Turbulation
BECAUSE Monotrol Air Adjustor
BECAUSE Quick Cut-Off Fuel Hoarder

. . . all exclusive features, combined with full factory cooperation give you an unbeatable team for Superior Sales Results

We'll be Glad to Tell You WHY

In Over a Quarter Century
NO REXOIL HAS EVER WORN OUT

REIF-REXOIL, INC.

37 CARROLL ST.
BUFFALO 3, N. Y.

plumbing and heating industries, has contributed to the formation of an informed public opinion, resulting in a favorable atmosphere in which to conduct a general merchandising program.

Norman J. Radder, re-elected secretary of the Bureau, in citing the new high in publicity linage gained during the year, attributed the ability of the Bureau to expand the scope of its operations to an abundance of newsprint, plentiful equipment supplies and an enlarged budget.

Price Tables Prepared By OHI Give Comparative Fuel Costs

"FUEL COST TABLES" is the title of a two-fold chart prepared by Oil-Heat Institute of America, Inc., New York 16, N. Y. The folder has been produced on heavy, durable paper stock, approximately 8½" x 11", when opened. The purpose of the fuel cost tables is explained as providing a method of insuring that proper weight be given to the Btu values of heating oils, when comparing its cost with other fuels.

Separate tables list prices and Btu values for oil, coal and gas. To use the tables, it is necessary to know the unit cost per ton of coal, cubic foot or therm of gas and gallon of fueloil, along with the heating value of each. When these have been determined, the cost of the fuel is read in the left hand vertical column of the proper table, the figure in the horizontal column under the Btu value for the fuel being compared then being the number of thousands of Btu the fuel supplies for one cent.

Explanatory copy, reproduced on the back of the charts, furnishes complete information on how to use the cost figures in various applications. The tables do not consider the efficiencies at which the fuels are being utilized, but the figures can be converted readily into net Btu values by multiplying them by the efficiency at which each fuel is burned.

I-B-R Check Chart Shows Common Chimney Faults

A CHIMNEY CHECK CHART, prepared by The Institute of Boiler and Radiator Manufacturers, New York 17, N. Y., depicts sixteen common defects which cause insufficient chimney draft. The chart indicates also how to locate these trouble spots and how the problems may be corrected. In addition, the chart shows draft handicaps which may exist at the boiler, such as excessively long smoke pipe, smoke pipe sloping down, and others and indicates corrective steps that should be taken.

The chart has been designed as a complete guide to chimney efficiency, as part of the educational and promotional activity of the Institute, and is available at a price of 80¢ per hundred copies.

Massachusetts Group Holds First Meeting Of Season

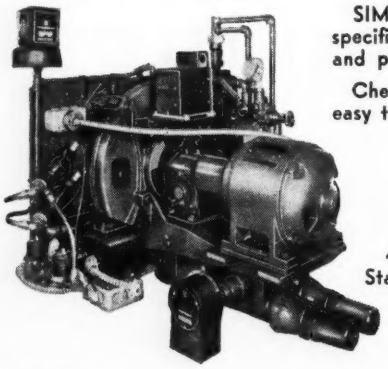
THE FIRST MEETING of the current heating season was held October 18 by the Massachusetts Oil Heating Association, Inc., Watertown 72, Mass. The meeting, as with all sessions for the current year, was held at the Lafayette Hotel, preceded by the usual dinner.

Appearing as speakers were Roger H. Wingate, United Mutual Fire Insurance Co., Boston and William Anglin, Liberty Mutual. Their talks were designed to ascertain if business firms, generally, are

EXTRA DOLLARS
FOR
SIMPLEX DEALERS

Stop missing out on important commercial and industrial installation jobs—jobs that mean extra dollars in your pocket.

You can make any large or small heavy duty installation with SIMPLEX precision horizontal rotaries or the famous pneumatic turbine type burner—and you do NOT have to be an expert combustion engineer to do it.



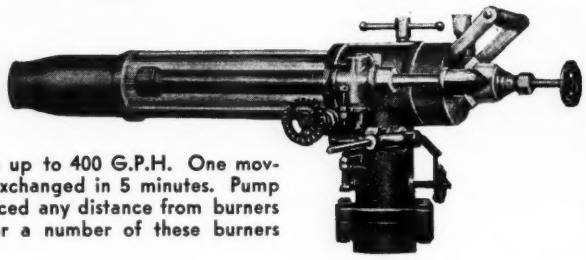
SIMPLEX engineers have designed these burners specifically for bakeries, hospitals, garages, public and private buildings, and other businesses.

Check these features that make SIMPLEX burners easy to install, simple to maintain.

SIMPLEX HORIZONTAL ROTARY TYPE BURNER

4 sizes offering ratings up to 90 G.P.H. Standard motors of nationally known manufacturers. Burner swings out on hinges for easy inspection.

SIMPLEX PNEUMATIC TURBINE-TYPE BURNER



4 sizes offering ratings up to 400 G.P.H. One moving part only—can be exchanged in 5 minutes. Pump and fan units can be placed any distance from burners and can operate one or a number of these burners together.

Get busy on this profitable new burner business. Write now for circulars showing SIMPLEX burners on the firing line in a variety of commercial and industrial applications

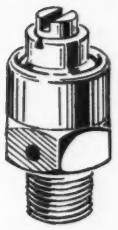
SINCE SIMPLEX OIL HEATING CORPORATION SIMPLEX OIL BURNING SYSTEMS 1910

SIMPLEX OIL HEATING CORP.
11 PARK PLACE • NEW YORK 7, N. Y.
Domestic, Industrial, and Custom Designed Oil Burning Systems

ROLL with DOLE

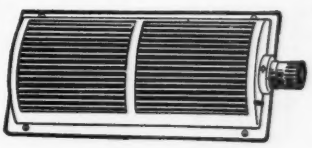
40 Fast Rolling Items

Get Details from Your Jobber



The NEW Thing in Hot Water Heating—
Dole No. 20 Hot Water Air Valve—first *fully automatic* vent for radiators and convectors. (In the new colored display packages.)

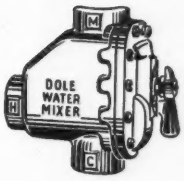
The VERSATILE New Flow Control
Just announced automatically gives constant flow regardless of water pressure. Great in tankless heaters. *New dealer display available.*



The BIG Thing in Forced Warm Air
Dole Thermostatic Air Controls *balance* systems—assure economy and individual room temperature control. (New low list price.)

CONTROL with DOLE

Plus the COMPLETE Line of 36 DOLE AIR and VACUUM VALVES etc.



The UNIQUE Mixer for Hot and Cold Water
Control temperatures from domestic hot water heaters—more usable hot water.

The SURE Thing in One-Pipe Steam
Fully proved on many thousands of radiators, Dole No. 1A Vari-Vents balance systems, lower heating costs.

Write on your letterhead for new complete Heating Division Catalog.

THE DOLE VALVE COMPANY • 1933 Carroll Avenue, Chicago 12, Illinois • *Representatives in Principal Cities*

covered by adequate insurance and the effects of not enough or improper coverage. A lively discussion ensued at the conclusion of the talks.

A highlight of the meeting was the introduction for the first time at an official gathering of the officers and directors elected last spring. Presented were: President Gus Dwelley, Automatic Htg. Corp., Boston; Vice-President James DeWolfe, General Heat & Appliance, Boston; Secretary-treasurer Fred W. Heaney, Buckley & Scott Utilities, Watertown; Honorary Secretary-treasurer Fred N. Beckwith and the following members of the Board: C. A. Breed, West Newton; John W. Carter, Watertown; Donald G. Clark, Worcester; Walter G. Crooker, Boston; Jack Isgur, Dorchester; Frank Scully, Cambridge; Leo W. Vincent, Attleboro.

State-wide Meeting Held By Oregon Heating Industries

A SEPTEMBER state-wide meeting was held at Medford, Oregon, by Oregon Heating Industries, OHI Chapter in Portland. Seventy-four registered for the meeting which heard talks by Ken Thomas, Peerless Trailer Co.; Russell Westover, president, Ray Oil Burner Co. and Wayne McCarthy, district manager for Minneapolis-Honeywell Regulator Co. A round table discussion followed the speeches.

Dr. Stevenson, president of Southern Oregon Normal, was the after-dinner speaker, introduced by Vic Milnes, chairman for the Medford group, who acted also as master of ceremonies for the day. Social events included an informal reception at the Medford Country Club, after the meeting, and courtesy rides over Crater Lake arranged by United Air Lines.

Spade Addresses Meeting Of Nassau County Dealers

A REGULAR MONTHLY MEETING was held on October 18 by the Fuel Oil & Oil Heating Dealers of Nassau, Inc. Freeport, N. Y. The meeting was convened at Kennedy Memorial Park Hall in Hempstead, presided over by President William Allyn.

The speaker was Herb Spade, Robison Oil Co., Hartsdale, N. Y., who spoke about the two price system for fueloil delivery. Mr. Spade explained the system under which his company operates and the economies that can be effected by basing fueloil prices on delivery costs, citing the savings that are possible where individual drops are larger than those for the usual 275-gallon tank.

Decalcomanias have been distributed for use on members trucks, it was announced at the meeting. The oval emblems feature the name of the association and the slogan, "Oil the Economy Fuel." Also, as a feature of Oil Progress Week it was revealed that local newspaper advertising was used to publicize the group, its members and its identifying emblem.

Copper And Brass Association Issues Radiant Heating Book

A HANDBOOK on simplified design and installation of radiant heating has been prepared by the Copper & Brass Research Association, New York 17, N. Y., primarily intended for the use of architects and heating engineers. The brochure presents a simple method of designing low temperature radiant panel

The Customer Always Returns
General
FUEL OIL FILTER
DE LUXE MODEL
2A-300
Model 2A-300 for exceptionally dirty tanks and large furnaces and boilers. .9-1/16" high; 5-1/2" diameter; 3/8" pipe openings.
General
FUEL OIL FILTER
STANDARD MODEL
1A-25
Model 1A-25 for space heaters, hot water heaters and small furnaces. 4-3/4" high; 3-1/2" diameter. Same style but with double capacity available as Model 2A-700.
FOR YOUR PASSENGER CAR OR TRUCK
General Filters are now available for your car or truck. Cartridges changed in one minute without tools. Complete kits include brackets for either engine or dash mounting. Put one on your car and truck. Regular dealer discounts.
You can be sure of repeaters when you sell a General Filter because the customer is always pleased with his money saving investment. So pleased, that it is natural for him to return year after year for a new cartridge. And your profit doesn't stop at the initial sale; it goes on and on with only a minimum of service from you.
A General Filter on every fuel oil burning installation is a good deal for both you and your customer — you make a nice profit on every sale and your customer is saved annoyance and expense from clogged burners.
MORE THAN 1600 JOBBERS TO SERVE YOU
GENERAL FILTERS INCORPORATED
GENERAL FUEL OIL FILTER
12890 WESTWOOD AVE. DETROIT 23, MICHIGAN
CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 173 STRACHAN AVE., TORONTO 3, ONTARIO

"NO MORE Chimney Sweeping for me!"

(An actual "experience story" with a moral for you)

JUST ONCE, in a New York City building that recently changed over to oil, the maintenance assistant cleaned the vents the old-fashioned way.

Once was enough. "No more old-fashioned chimney sweeping for me!" was his verdict. "Not only was I completely covered with grime and soot myself, but the hand brushing showered the soot down into the ash pit and all over the oil burner mechanism."

"No more of that," all hands agreed.

Now General Electric's Furnace Cleaner Model 175 has the job of keeping this building's oil-fired boilers—and their maintenance men—clean and happy.

EVERY WEEK the black soot that gathers on flues, vents, and doors is suctioned off quickly, thoroughly, easily, into the container of the G-E Model 175. Saves time, saves tempers, *saves fuel.*

GET THE FACTS!

In your search for ways to make your furnace-cleaning service more profitable, get the facts about the General Electric Furnace Cleaner. It's designed by General Electric engineers to make furnace cleaning a better business for you. Learn all about this powerful, speedy unit.

SEND TODAY!

for complete specifications on this time-saving unit.

Model 175 Furnace Cleaner

Furnace Cleaners

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, Dept. 22-1616

1285 Boston Ave., Bridgeport 2, Conn.

Without obligation, send descriptive literature on G-E Furnace and Boiler Cleaner equipment.

NAME.....

FIRM.....

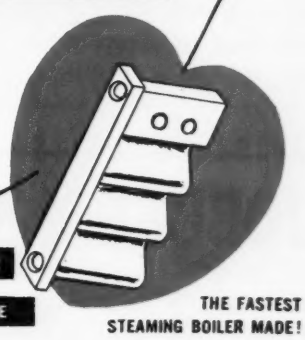
ADDRESS.....

CITY..... STATE.....

Koven WATERFILM BOILERS

FOR FASTEST HEAT AT LOWEST COST!

- Patented Construction
- Quick-Steaming
- Retards Accumulation of Soot
- Economical
- Rugged Construction
- Easily Replaced



THE HEART OF THE WATERFILM BOILER IS THE ZIG-ZAG SHAPED WATER TUBE

THE FASTEST STEAMING BOILER MADE!

Build customer goodwill by recommending WATERFILM Boilers. Economical with fuel, WATERFILM heats rapidly and evenly because in its exclusive water tube, a small amount of water is turned to steam almost immediately—before the rest of the water in the tank is even warm! It provides lots of hot water at all times—is precision engineered for years of dependable operation. There are several streamlined WATERFILM models in sizes for small homes, apartment houses and industrial plants. Feature the Sectional Boiler for larger installations—it can be taken through a 2-ft. door. 500-17, 850 E,D.R. NATIONALLY ADVERTISED. Write for free newspaper mats and free literature.

EVEN ROOM TEMPERATURE THROUGHOUT THE HOUSE!

WATERFILM BOILERS, Inc.

A Division of L. O. Koven & Bro., Inc.

154 Ogden Ave., Jersey City 7, N. J.

Plants: Jersey City, N. J. Dover, N. J.

FOR AUTOMATIC FIRING WITH OIL, STOKER OR GAS

heating systems using copper tube and includes suggestions for their installation. J. M. van Nieukerken, engineering consultant, supervised preparation of the book, assisted by engineers of member companies.

Included are a series of full page illustrations showing typical ceiling, wall and floor panel plans. The book presents also a step-by-step procedure for the determination of the factors involved, along with practical suggestions on fabricating and installing the copper tube panels and hints for testing the system. Various types of systems are shown in installation photographs, some showing work in the progress. Finally, there are a number of tables providing heat loss data.

Fan Makers Association Incorporates In Michigan

EFFECTIVE September 1, National Association of Fan Manufacturers, Inc., Detroit 26, Mich., has been the official name of the group, incorporation under the laws of the State of Michigan as a voluntary, non-profit organization having been completed. The association began in 1917 as The Fan Manufacturers' Credit Association and changed its name two years later to National Association of Fan Manufacturers as more indicative of its functions. Nine of the charter members retain their membership today.

The activities of NAFM cover standards, engineering, safety, transportation, statistics, manufacturing and other industrial problems. In addition, the group maintains memberships in other organizations concerned with fire prevention, transportation and industrial hygiene. The Association has developed the science of fan engineering through cooperation with engineering societies and colleges and regularly issues bulletins on standards and test codes.

JOBBERS! THERE'S NO REASON TO HOLD BACK ANY LONGER!

The whole engineering purpose behind the Beckett COMMODORE Oil Burner was to make it so fool-proof that supply houses would no longer be afraid of possible service annoyances. How well we succeeded can be taken from field experience from coast to coast. Excerpts of letters from the field offer conclusive evidence that the Beckett COMMODORE is everything claimed for it.

★ "We are reasonably sure you will appreciate knowing, how little service and replacement parts we have had to render to our dealer organization during the ten years we have handled Beckett Commodores."
Mormile Plumbing & Heating, Amsterdam, N. Y.

★ "We sold Beckett burners about ten years ago, and the job in our office is still knocking it off perfectly without a single replacement part after eleven years burning 4000 to 4500 gallons of oil per year."
E. E. Souther Iron Company, St. Louis, Mo.

★ "For a period of over 10 years we have had excellent results with your burners and have had no complaints in connection with any that we have sold."
Marsden & Wasserman, Hartford, Conn.

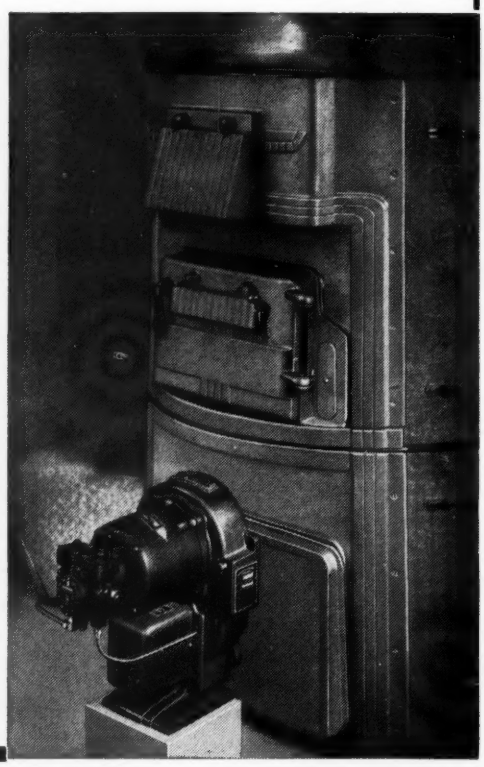
Simplified instructions, in addition to burner simplicity, enabled even the most inexperienced dealers to obtain outstanding results.

Beckett
COMMODORE
Oil Burners

Sixteen U. S. and Foreign Patents prove COMMODORE principles must be different. Easily burns *Catalytic* oils at higher efficiencies . . . nozzles remain cool to the touch. Models ¾ to 13 gallons.

Inquiries invited in open territories

R. W. BECKETT CORPORATION
ELYRIA, OHIO



NYOHA Honors Rapps At Testimonial Dinner

ON SEPTEMBER 29 approximately one hundred persons attended a testimonial dinner, sponsored by the New York Oil Heating Association, Inc., Long Island City 1, N. Y., for Hyman D. Rapps, president during 1948. The affair was held at the Brooklyn Elks Club.

Mr. Rapps received, as do all other past presidents of the Association, a replica of the gong used to open and keep order during meetings. In addition, he was given a silver cigarette case and Mrs. Rapps was the recipient of two dozen roses. Presentation of the awards was made by Phil Mitchell.

ASME Schedules Seventieth Annual Meeting In New York

THE SEVENTIETH annual meeting of the American Society of Mechanical Engineers, New York 18, N. Y., is to be held in New York this year from November 28 to December 2. Headquarters will be at the Statler Hotel.

More than 270 speakers drawn from university, laboratory and industry are scheduled to deliver 200 papers at 78 technical sessions sponsored by the 22 professional divisions and committees of ASME. Prominent figures in engineering, industry and public life will speak at 16 dinners and luncheons. Prior to the opening date, preliminary meetings of the ASME Council and various executive groups will be held on Sunday, November 27.

2 New Auto-Vents by Maid-O'-Mist, Inc.

for Hot Water Heating Systems

No. 67 AUTO-VENT (Float Operated) for continuous venting of Hot Water Heating Systems

When space for air valves is limited, the new No. 67 Auto-Vent is the answer. Its small overall size (3-3/16" x 1½" with ⅛" I.P. thread) allows its installation in trouble spots previously neglected or improperly vented. Built entirely of non-ferrous metals. For use on hot water systems up to 30 lbs. pressure. No air chamber is required. Send for catalog sheet No. 67C.

List price $3.50

◀ *Use the No. 67 on Hot Water*: Convector Radiators • Baseboard Radiation • Radiant Panels.

No. 72 AUTO-VENT — the fastest venting valve (Expansion Type) on the market!

Due to the unique construction of the new No. 72 Auto-Vent, all expansion and contraction of the special composition disk is confined to 4 vent slots rather than around the entire seat of the valve. This plus its internal siphon tube makes it the fastest venting valve (expansion type) on the market for hot water heating. Send for catalog sheet No. 72C.

List price $1.50

Maid-O'-Mist, Inc. have pioneered in the development of efficient devices for automatically venting air and gas from Hot Water heating systems. The famous No. 7 Auto-Vent has for years been accepted as one of the most successful inexpensive means of venting overhead mains, trapped pipe lines, radiation etc., and hot or cold liquid circulating systems.

Use the No. 72 on Hot Water: Convector Radiators • Baseboard Radiation • Free Standing Radiators.

MAID-O'-MIST Inc.
HEATING SPECIALTIES

AUTOMATIC HUMIDIFIERS . . . . . AUTO-VENTS
WATER LINE CONTROLS . HEATING SPECIALTIES

MAID-O'-MIST, Inc.

3217 NORTH PULASKI ROAD . CHICAGO 41, ILL.

Heating Wholesalers Group Moves And Names Secretary

ANNOUNCEMENT of the removal of its national headquarters from Pittsburgh to 602 Union Commerce Building, Cleveland, Ohio, has been made by the National Heating Wholesalers' Association, Inc. At the same time the appointment of E. L. Wyman, as executive secretary, was revealed.

Mr. Wyman, formerly with Clayton Mark & Co., Chicago and during the war Head of the Warehouse and Jobbers Section, Iron and Steel Division, OPA in Washington, contemplates an ambitious program to further the interests of heating wholesalers and jobbers.

Marketing Division Meets During API's Annual Meeting

A FEATURE of the sessions sponsored by the Division of Marketing, American Petroleum Institute, New York 20, N. Y., during the Institute's annual meeting in Chicago, November 7-10, was the address delivered by Vice President Alben W. Barkley. He spoke at a group session on November 7, held in the Stevens Hotel, in a talk, entitled, "An address to the oil industry." Speakers on the same program included E. Holley Poe, former director of Natural Gas, PAW, who discussed "The coming impact of natural gas on the fueloil market."

The Division of Marketing also held a second group session the following day, when the program included a talk by Conger Reynolds, Standard Oil Co. (Indiana) and chairman, Oil Industry Information Committee, which was a commentary on the activities of the committee.

Baltimore Dealers Mass Trucks For Oil Progress Show

ORGANIZED by the Oil Heat Association of Maryland, Inc., Baltimore 1, Md., was a mass display of fueloil trucks as a feature of Oil Progress Week. The display was held on October 20, coincident with a luncheon, sponsored by the group at the Hotel Stafford. Each member of the association, and the major oil companies, was asked to shine up their newest and best looking fueloil truck, decorate it with banners and bumper signs and have at least one representative come to the luncheon in it. The banners, measuring 3 x 6, carried the slogan, "Oil builds for America's future," the bumper signs proclaimed, "1949 — Oil's Ninetieth Year of Progress."

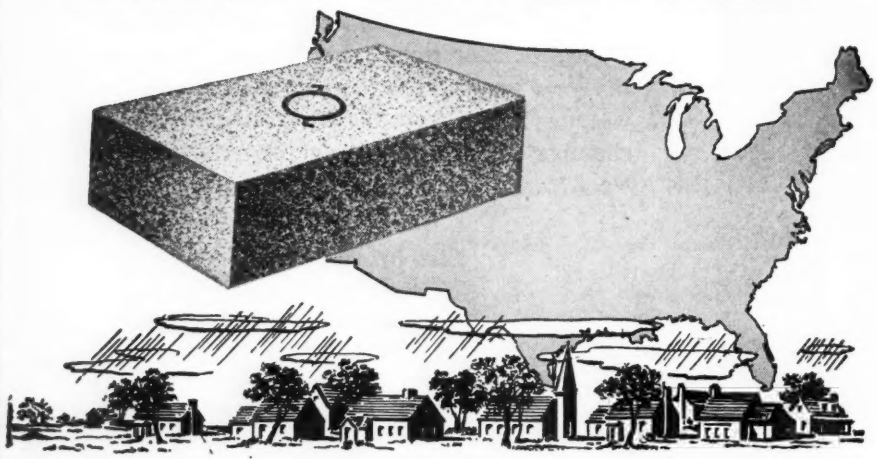
Permission was obtained from the Police Department to form on the Orleans Street viaduct, adjacent to the hotel, where photographs were taken.

Contractors' Standards Book Aids Conditioning Calculation

MEMBERS of the Heating, Piping and Air Conditioning Contractors National Association have received from the National Association, Part IV of the Engineering Standards entitled "Comfort Air Conditioning," a 64-page book having pertinent information for the man who figures air conditioning loads. This book is furnished as part of the service to members. It is also available to nonmembers at $2.00 per copy.

The National Association distributes its Engineering Standards through its affiliated local associations and orders for this material should be placed with such associations.

Let "A Quarter of a Million Families" Be Your Guide

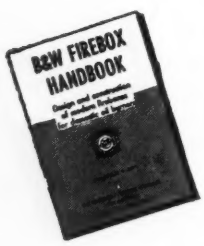


Yes, more than a quarter million families are getting oil heating comfort at a much lower cost because wide-awake and alert dealers have provided them with B&W Fireboxes.

This figure carries a vital sales message for you. It shows that dealers and customers all over the country recognize the advantages of B&W Insulating Firebrick. It proves that they are "sold" on the Fireboxes that —

1. **Save fuel, due to more efficient insulation.**
2. **Minimize odor, soot and smoke.**
3. **Assure smoother, quieter burning.**
4. **Respond quickly to thermostat by reaching temperature quickly from a cold start.**

Follow this lead to increased sales and profits—by showing your customers the benefits of B&W Fireboxes.



Send Today
for the
B&W FIREBOX HANDBOOK
a sure guide to customer satisfaction and more sales.

R-298

B&W

B&W REFRACTORIES PRODUCTS
B&W 80 FIREBRICK • B&W JUNIOR FIREBRICK
B&W 80 GLASS TANK BLOCKS • B&W INSULATING FIREBRICK
B&W REFRACTORY CASTABLES, PLASTICS AND MORTARS

OTHER B&W PRODUCTS
Stationary & Marine Boilers and Component Equipment
Chemical Recovery Units . . . Seamless & Welded Tubes . . . Pulverizers
Fuel Burning Equipment . . . Pressure Vessels . . . Alloy Castings

BABCOCK & WILCOX
THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK 6, N.Y.
WORKS: AUGUSTA, GA.

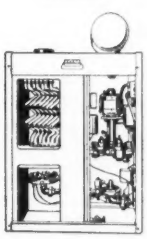
Bryan offers

A Completely

PACKAGED BOILER

designed for radiant heating of small homes and apartments

CLOSED



OPEN

- Measuring but 31" wide, 41" high and 18" deep, it delivers 70,000 BTUs. Also 100,000 BTU size available.
- Green hammerloid finish.
- Oil or gas firing optional.
- Light in weight.
- High efficiency copper tubes.
- Easily installed—all wiring, piping and controls assembled at factory—ready for use after connecting to water, mains, electricity and fuel lines.

Built to ASME specifications. Send today for complete information.

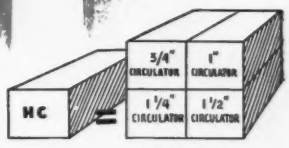
BRYAN STEAM CORP.
5119 Chili Pike • Peru, Indiana

BRYAN
Copper Tube
BOILERS

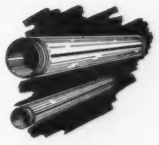
fueloil & oil heat

MORE MONEY IN YOUR POCKET WITH...

TACO'S NEW HORIZONTAL CIRCULATOR



CUTS INVENTORIES . . .
Reduces 'em by 3/4



CUTS TOTAL JOB COSTS . . .
Uses smaller pipe sizes
***1"—1¼"—1½"**

Install Taco's new money saver **HORIZONTAL** circulator. The interchangeability of flanges enables you to cut your inventory and yet have all sizes in stock.

1½" CAPACITY SUPPLIED IN ALL SIZES

You get the extra capacity needed for today's modern radiant heating systems. It's nice to have that extra capacity (even though you use smaller sized flanges) . . . just in case you need it.

*¾" flanges can be supplied instead of 1"

"Better Heating-Better with Taco"

TACO-ABBOTT SYSTEM
Taco

TACO HEATERS, Incorporated
137 South St., Providence 3, R. I.

Elect Officers At Chicago Meeting Of Gas Association

OFFICERS elected for the 1949-50 term at the meeting held in Chicago October 17-20 by the American Gas Association, New York 17, N. Y., were: President, Hugh H. Cuthrell, Brooklyn Union Gas Co., Brooklyn, N. Y.; First vice-president, D. A. Hulcy, Lone Star Gas Co., Dallas, Tex.; Second vice-president, George F. Mitchell, Peoples Gas Light & Coke Co., Chicago and Treasurer, Edward F. Barrett, L. I. Lighting Co., Mineola, N. Y. In addition, a slate of directors was named, along with chairmen and vice chairmen for seven sections and committees.

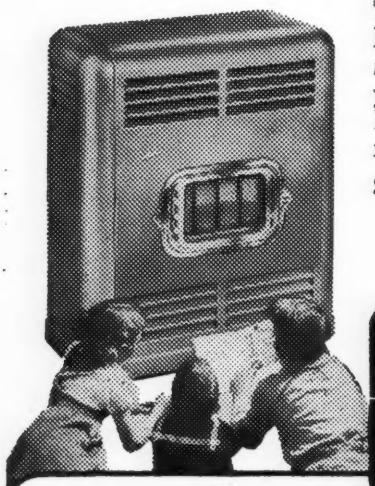
Upper Midwest Joins With Northwest Oil Jobbers

THE UPPER MIDWEST Oil Burner Association, Minneapolis, has joined with the Northwest Petroleum Association, and henceforth will be known as the Oilburner Division of that organization.

H. F. Horning, secretary for both associations, made the announcement in the October 14 issue of the "Northwest Oil Jobber," bi-monthly organization bulletin, and revealed that all Upper Midwest members will receive automatic membership in the NWPA.

Regular monthly meetings will continue on the second Tuesday of each month and the board of directors of the Northwest group has voted to add three members from the Oilburner Division.

The combined group is planning an annual convention next January 11 and 12 at the St. Paul hotel.



There's a market for SPARK oil heaters NOW! Installation *right now* has special advantages to you and your customers...avoids last minute rush and delays; makes winter comfort certain.

SPARK HAS NEW MODELS— NEW, LOW PRICES.

Write for details

SPARK OIL BURNING HEATERS

A product of SPARK STOVE CO., INC. OAKLAND 1, CALIF.

SPARK Stove Co., Inc.
2619 E. 12th St., Oakland 1, Calif.

Gentlemen: Please send me complete information on SPARK oil burning heaters and your SPARK dealer plan.

*Name*_____

*Firm*_____

*Address*_____

*City*_____ *State*_____

California Heavy Oil Moving To East Coast

FROM NOW until spring California will ship heavy fueloil to the Atlantic Seaboard at the rate of 1,300,000 barrels a month as winter grips the East. Sixty tankers, each carrying 100,000 barrels of fuel, loaded at Los Angeles harbor, will pass through the Panama Canal, en route to New Jersey terminals.

Shell Oil Company will move 1,500,000 barrels before March 31. Texas Company will ship 1,000,000 barrels before February, Union Oil will ship 2,000,000 which have already been placed, and another California marketer expects to ship 500,000 barrels before March 1.

Richfield Oil Corporation has already shipped one tanker load and expects to move at least a million barrels of fuel east before spring.

Fueloil in California is quoted at $1.25 per barrel. The expectation is that at least a part of the shipments will bring somewhat less than that, after the cost of transportation—70 cents per barrel.

The outlet is seen as an opportunity for California producers who feel a serious overproduction of fueloil.

If orchard heating in Southern California this winter calls for 4,000,000 to 5,000,000 barrels of heavy oil, the emergency in California will be greatly relieved by these combined outlets.

A. D. Gray has been appointed special representative in New York for Union Oil Co. of California. With the company since 1929, Mr. Gray in recent years has been associated with its western offices.

For a quarter of a century, Teesdale Wall Pumps have been used for heavy-duty service where reliability was essential. Design and construction remain just as the industry's veterans have always known them—THE BEST.

It is this "best" which is the foundation of Teesdale economy and the reason why old timers in the business will use nothing else.

DESIGN AND OPERATION

A Teesdale Wall Pump is a completely integrated machine. It has (1) a motor driven, rotary pump, submerged in an ample 16-gauge steel reservoir, (2) OFF and ON switch controls for intermittent operation and (3) its own built-in safety devices. It lifts fuel oil from the storage tank and automatically delivers it by gravity in a measured supply in accordance with the varying requirements of the burner. It requires no further attention.

The standard 30 gph Model "TUX" and the 75 gph Model R have the same general design, but naturally their parts differ. In one pumping cycle, Model "TUX" delivers 3 pints, while the Model "R" delivers 2 gallons.

CAPACITY AND PERFORMANCE

Using a ½″ suction line, allow 1″ of vacuum for each foot of vertical lift, for each 20′ of horizontal run or for each elbow or bend. At no lift and without restrictions, Model "TUX" pumps 30 gph. At a 25′ vertical lift or its equivalent, it pumps 25 gph. With the same size suction line, Model "R", at no lift or without restrictions, pumps 75 gph or at 18′ vertical lift, 65 gph. These standards are based on fuel oil of 38 to 40 Baume, and assure a liberal margin of safety when pumping is intermittent.

The reason for this high standard of performance is the ingenious design of the Teesdale Pump. The motion of the rotor, a cam-actuated semiroll assures silent operation and exceptionally long service life—up to 25 years.

The motor is a high starting torque unit, standard for 110 volt, 60 cycle alternating current, but motors of other specifications are available as extras.

INSTALLATION

The Teesdale Pump is easily installed by one man. There is just one simple electrical connection, and the practical wall mounting bracket shipped with each pump is just as easy to handle. Another item in the package is the Teesdale Unicheck Valve which prevents drain-back.

The piping consists of suction and overflow lines between pump and fuel tank and a feed line to the burner. For Model "TUX" use ½″ inlet and feed lines with a 1″ overflow line. For Model "R", use ¾″ inlet and feed lines with a 1″ overflow line.

The Autopulse distribution plan makes Teesdale Pumps available to all recognized wholesalers. Autopulse distributors are adding Teesdale Pumps together with reconditioned pumps and accessories to round out a complete line for gravity, rotary and pot type burners. Your inquiry is invited.

- Ample Stocks
- Prompt Service
- Through Reliable Burner Supply Firms

Write for Further Details or Place Orders Directly with Autopulse

AUTOPULSE Corporation

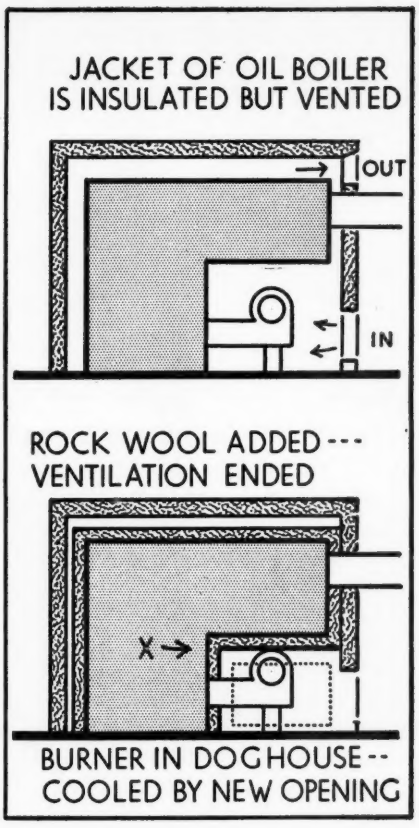
LUDINGTON, MICHIGAN

Everyday Snags

Cut Boiler Heat Loss

You could put your hand on any part of this oil-boiler jacket and it felt cool, so cool that you thought the air-cell asbestos insulation with which the jacket was lined was wonderfully effective. Yet the owner was complaining last summer about high oil bills, especially the cost of using the tankless heater in summer to provide hot water on tap.

Checking, the burner man noticed that the basement seemed very warm. Checking further, he found that a large air opening at the bottom of the jacket gave basement air to the enclosed burner, and at the top of the jacket a large opening gave out what he termed, "enough hot air to heat a five-room bungalow on a zero day." Defeating completely the purpose of the jacket insulation, to the burner man's opinion, the air-flow through the boiler seemingly had been arranged for the purpose of making certain the burner would not be overheated by the boiler that kept it company in the jacket.


JACKET OF OIL BOILER IS INSULATED BUT VENTED
OUT
IN
ROCK WOOL ADDED --- VENTILATION ENDED
X
BURNER IN DOGHOUSE -- COOLED BY NEW OPENING

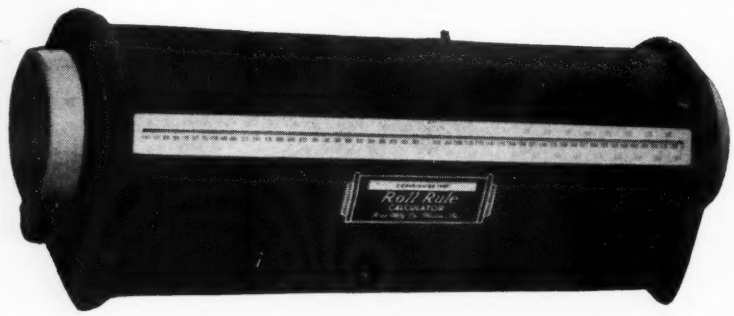
After removing the jacket, the man covered the boiler surfaces with rock wool insulation, wrapped around and held in place with wire, and one to two inches thick as space under the jacket permitted. Replacing part of the jacket, he placed a sheet of asbestos millboard over the burner, at location "X" in the drawing, and stopped circulation of air upwards from the burner compartment. Two large new holes, low in the sides of the jacket and shown by dotted lines, provide air circulation and keep the burner cool. Now the burner is cooler, the owner is happier, the basement temperature is lower, and efficiencies are higher, says the burner man. Summer oil savings amount to half a gallon per day; heating season savings may amount to three-quarters to one gallon per day.

Fired 1.50 gph, the boiler is steam type, and in summer is kept at 180°.

* * *

Slow Furnace Blower

The owner of a large fuel and heating equipment company in Chicago recently went out on a service call himself after several calls by his men had failed to end a complaint related to no heat from the warm air registers in a few rooms of a house. At first the men



SCHEDULING AUTOMATIC FUEL OIL DELIVERIES---- SIMPLIFIED WITH THE

ROLL-RULE DEGREE DAY CALCULATOR

The Roll-Rule accurately computes "K" factors and schedules Degree Day Deliveries in a fraction of the time required by any other method.

It has been designed especially to meet *YOUR* requirements and to save you time during your peak load season.

CALCULATES AUTOMATICALLY
Quickly gives "degree day" mark ahead
Largely eliminates chances of error
Easily operated—No experience required
Proven sturdy and dependable
Portable and convenient

SAVINGS THROUGH USE OF ROLL-RULE DEGREE DAY CALCULATOR
Can readily pay for its cost by the greatly reduced clerical work required

Thirty-Five ($35.00) Delivered Parcel Post C.O.D. or Payment in advance to

CALCULATOR DIVISION

RUE MANUFACTURING COMPANY
1435 MELON STREET
PHILADELPHIA, 30, PA.

HOW A TEN-CENT BALLOON SELLS OIL BURNERS

Convincing Proof That Electrol Franchise Is Tops!

Just a ten-cent balloon can prove Electrol's famous "Ball Flame" efficiency!

Put a balloon in front of the nozzle of *any* competitive burner—gun type, pot type, rotary—and you'll see that balloon blow away whenever there's pressure. Try it with an *Electrol* Burner, though, and the balloon will remain *suspended and spinning in mid-air—just like the "Ball Flame" does when the burner's in use!*

This constant suspension means the "Ball Flame" *never* touches the chamber's walls—results in *no* soot, more heat, *greater* efficiency. The "Ball Flame" is actually a revolving container of the *most intense heat* in the burner business. And—*no other burner has it!*

The balloon test is selling more dealers on profitable Electrol franchises . . . it's selling more new customers for them, too! Electrols are installed in small homes . . . large homes . . . huge industrial units; there's a handsome, durable Electrol Burner for *any* heating need!

You, too, can share the success of our present dealers.

Manufacturers of:

- **"Ball Flame" Conversion Burners**
- **Domestic Water Heaters**
- **Boiler-Burner Units**
- **Electrolaire Warm Air Conditioners**
- **Burners for Homes and Industries**

SINCE 1918
ELECTROL
BURNER MANUFACTURING CO., INC.
Rutherford New Jersey
FAMOUS BALL FLAME EFFICIENCY

The BURNRITE Anti-Syphon Valve

RELIEVES strain on fuel pump!

PREVENTS back syphonage!

When you specify and install the BURNRITE Anti-Syphon Valve on either new or existing oil fired jobs, you do your customer a real service. You prevent the back syphonage of fuel oil that otherwise retards oil burner performance. You provide the means of taking the strain off the fuel pump and thereby improve and greatly extend its years of service.

Approved by National Board of Fire Underwriters. . . . Approved by New York Board of Standards and Appeals.

PROMOTES top efficiency!

The BURNRITE Anti-Syphon Valve actually helps to make the burner burn right! It helps, too, to banish agitating chatter and the hum of motor vibration. It is a rust-proof and low vacuum operating unit, requiring no attention.

Sizes: 3/8" to 1 1/2" inclusive

OPTIONAL 5 OR 10 FOOT HEADS

Make BURNRITE a definite part of every oil burner job . . . get in touch with your wholesaler or write us direct.

BURNRITE VALVE MFG. CORP.
177 W. FIRST ST., MT. VERNON, N.Y.

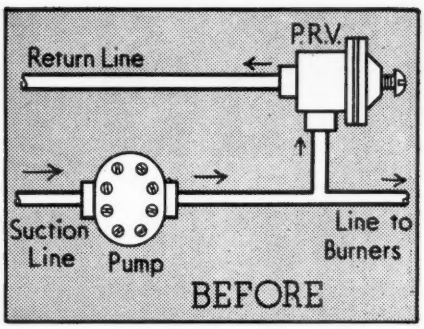
had installed new air filters. Then they had removed all the air filters. The boss found out in five minutes that the trouble lay in stretch of the belt driving the circulating blower. Because of this, the blower was turning over at about one-quarter of its proper speed.

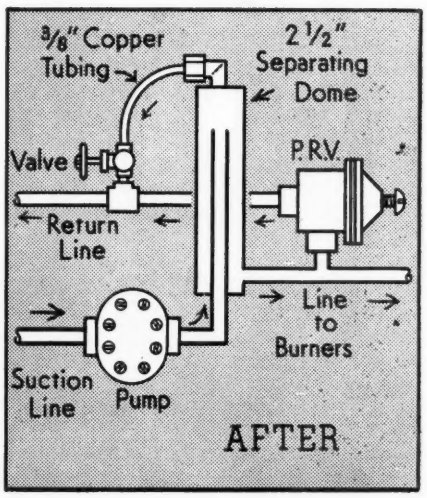
* * *

Power Plant Burners

These Before-and-After diagrams show the fueloil pump used in a power plant to supply oil under pressure to six industrial burners. P.R.V. stands for pressure regulator valve.

The suction line developed an air leak some five years ago. This did not become better or worse as time went on, was not repaired because of the difficulty and expense of shutting down and getting at the 3" suction line, but made the Watch Engineers increasingly nervous. Fired by a small flame that permitted the firebox to cool somewhat, a burner would receive a slug of air instead of fueloil. The flame would go out, a few seconds later oil would spray again and light off the firebrick and the boiler doors would blow open.





The trouble was eliminated at no expense compared to locating and ending the leak in the suction line. The After diagram shows how a dome was installed at the output side of the pump to separate the air from the fueloil, give the burners oil free of air, and permit escape back to the storage tank of the small amounts of air that had been causing the trouble. Moving down slowly in the 2½" dome, which is 30" high, the oil flowing to the burners has ample opportunity to rid itself of the air that leaks into the suction line and is churned with the oil by the gear pump. Except the ⅜" copper tube line for air-ridding, the lines in the diagram are ¾" size. The valve at the bottom of the copper tubing must be adjusted properly. Keeping it open a little more than half a turn usually gives proper air-ridding with no drop in the oil pressure on the burners when a slug of air comes from the pump.

* * *

Electric Water Heating

These data help thinking of water heating in terms of using electricity or fueloil.

One KWH, or a draw of 1,000 watts for one hour, gives 3,412 Btu. At 100% efficiency, this amount of electricity can heat 4.12 gallons of water over a 100°

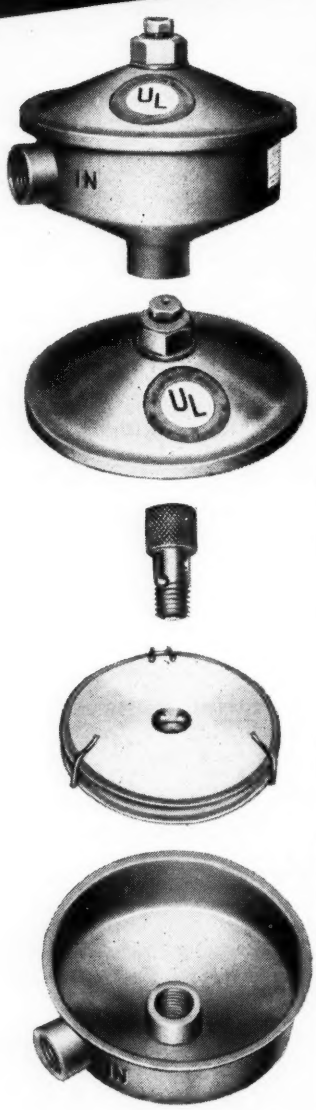
A sensation in the oil burner field

SPARKLER FUEL OIL FILTER...

surface type Model OB

DISTINCTIVE FEATURES

1. **A quality filter that will continue to operate under adverse conditions. No sudden stoppage of burner that necessitates night service calls.**
2. **Lint free filtering element is rayon filter paper that positively eliminates the possibility of lint clogging nozzle screens.**
3. **Large filtering area in a minimum space. More filtering surface is provided in a smaller space than possible with deep type filter. One set of filter elements will last an entire season in the average home installation.**



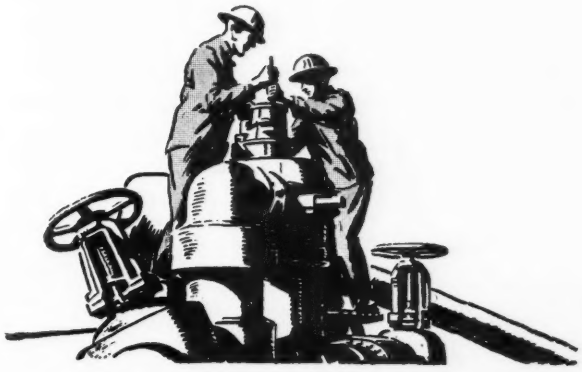
Surface type filtration as used in the Sparkler Model OB fuel oil filter has been used for many years in industrial filters for the removal of fine microscopic particles of residue. Sparkler surface type filters are used in processing petroleum products such as lubricating oils, heavy diesel oil and other oil stocks.

Now for the first time a fine grained surface type filter is available to the fuel oil trade. A filter that will remove all dirt and deposits found in storage tanks and at the same time eliminate the danger of sluffed off fibre particles clogging screens and causing sudden stoppage of burner.

Write today for special information about service dealer franchise

SPARKLER MANUFACTURING CO. 200 Lake Street, Mundelein, Ill.

A Token of PROGRESS



PROGRESS has three meanings, according to Webster. Growth. Movement forward. Improvement.

We have just observed Oil Progress Week, dedicated to the year's accomplishments of the Petroleum Industry. Cities Service contributes to the celebration an expression of confidence in the industry's future, and a record born of that confidence.

For example, Cities Service completed during the year 1949 three major projects

—a $20,000,000 expansion of its East Chicago refinery.

—a $30,000,000 26-inch gas pipe line from the Hugoton field in Kansas to Kansas City.

—a $42,000,000 lube plant, the most modern in the world, at Lake Charles, Louisiana.

This expenditure of nearly $100,000,000 is progress by growth and movement. It is also progress by improvement . . . of processes and products.

For example, the lube plant puts into practice the knowledge of a life-time study of combustion. Cities Service, between 1929 and 1949, analyzed the combustion of ten million vehicles. In the nine days preceding Pearl Harbor it analyzed 24,409 motors for the Office of Civilian Defense.

Cities Service has a first-hand knowledge of what is expected of a motor oil today.

To live up to the "improvement" definition of progress, Cities Service engineers and researchers, working together, are making available daily from this new plant 6000 barrels of lubricating oils designed to meet the many varied needs of this modern age of wheels.

The national welfare requires quality products today as never before. The temperatures, pressures and speeds of America's industrial engines and war machines are increasing almost by the hour. This calls for better grade oils, the finest oils that can be produced. The demand for super-lubricants is imperative, and for thousands of tons per year. The new Lake Charles plant stands ready to meet this demand in both quantity and quality.

We feel it is fitting to chronicle these activities, because, after all, the progress of an industry is but the sum total of its component parts.

Progress through Service has been the motto hanging on our wall from the beginning. It is something more than a motto. Customers who bought $600,000,000 of our goods last year testify that service, as practiced by this Company, is in assisting users to get more out of petroleum products than they would otherwise obtain.

CITIES SERVICE

Progress through Service

fueloil & oil heat

rise (from 50° F. to 150° F. for example). At 90% efficiency for an electric water heater, you can figure the owner gets about 3¾ gallons of hot water for each KWH he buys for water heating. Find out what a KWH for water heating costs in your locality. At 1¢ or 1½¢ per KWH, electric water heating obviously can be quite expensive.

You can figure that from 10 to 15 gallons of hot water are used per day for each occupant of a house. Count a baby or a servant as two occupants.

For comparison: With fueloil used at about 60% efficiency, about 84,000 Btu's from each gallon of oil serve to heat water; and the heat in one gallon of oil can raise the temperature of about 100 gallons of water by 100°.

Where 1¢ (per KWH) electricity is used to heat water, 3¾ gallons of hot water may be obtained for 1¢ spent on water heating Btu's, assuming 90% water heater efficiency.

Where 12¢ per gallon fueloil is used, 83 gallons of hot water (also heated over the standard range of 100° F.) may be obtained for 1¢ spent on water heating Btu's, assuming 60% efficiency.

To preheat in any possible manner, at no cost of course, the water fed to an electric water heater pays great dividends. It pays to use a preheat tank to bring water to basement temperature.

During the heating season, heat lost from hot water lines serves mostly to heat a house. Heat is inevitably lost from the lines after they are filled with hot water, to get it to a hot water faucet, and then they cool. Where low-priced fueloil is used for water heating, there's nothing lost in heating a house to a degree by use of Btu's from hot water lines. But the loss of heat from pipes carrying electrically-heated water proves very expensive because with electrically produced Btu's costing many times the price of oil-produced Btu's, it's wise to carry none of the house-heating load by electricity if you have any choice.

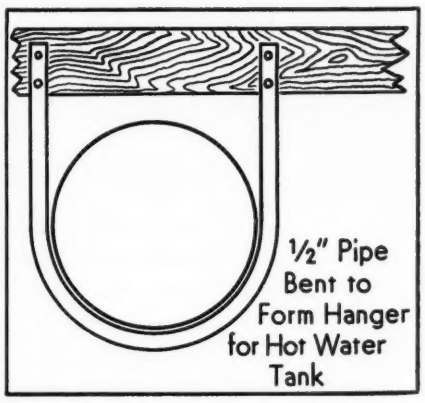
With a modern electric water heater, standby heat losses are surprisingly low; a 30-gallon heater can stand by for a week on just a few cents worth of electricity. It's drawing a lot of hot water that runs up the electric bill.

Oil-powered water heaters cost much more for standby, but can provide tremendous amounts of low cost hot water.

* * *

H. W. Tank Support

The diagram shows how ½" or ¾" steel pipe, which need not be brand-new, can be bent to form a support for a hot water tank hung from basement beams.



Drill two holes at the top of each side to take siutable nails or wood screws. The up-and-coming young oil heating enthusiast, who showed us this rig out on Long Island, says that he bends the pipes easily, using old hot water tanks of different sizes stuck upright, halfway in the ground, behind his headquarters.

Heats very fast

Has medium heat storage

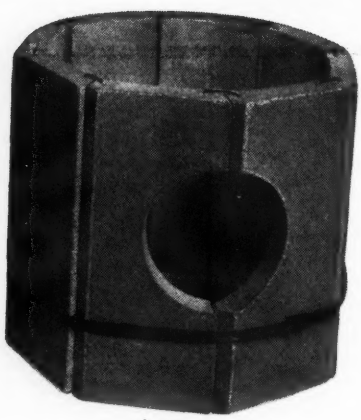
Every-thing for job in one carton

Withstands high temperature

Light weight— Easy to handle

Easily installed

Low in price



Your supply house has R & I Combustion Chambers. Write us for new informative booklet OB-101 which gives valuable information for dealers and installers.

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The Invisible Staff . . . .

behind every Waterbury dealer

If you're a Waterbury dealer, you've probably noticed it many times—in many different ways . . . the important aspects of your business that are cared for automatically.

The advertising—keeping the name Waterbury before the public, your customers . . . the merchandising tools—display materials, sales ideas, ad mats—all designed to find your prospects.

. . . the matter of distribution rights—making sure that you and you alone represent Waterbury in your locality—that you are the only Waterbury dealer in a clearly defined territory.

. . . the engineering skill—constantly at work—making your Waterburys the finest equipment in warm air heating, anywhere!

All this—and more—stands behind you with every Waterbury you install. All this thinking—planning—*doing* . . . it's going on day after day . . . making your future with Waterbury a secure and growing one. It's your invisible staff . . . working for *you*.

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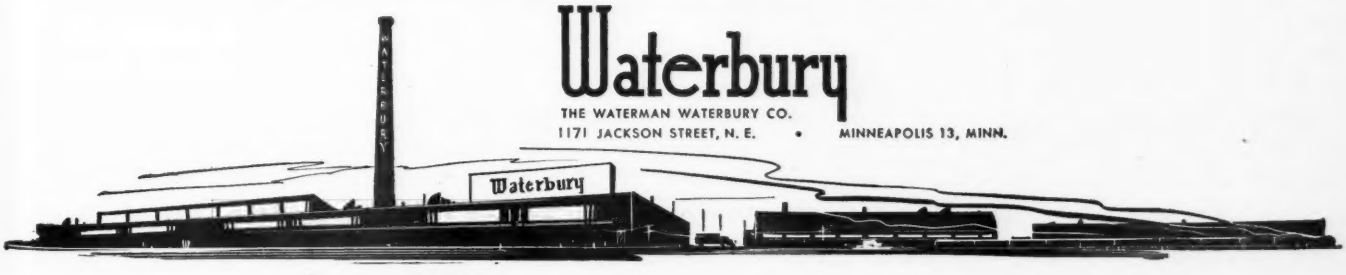
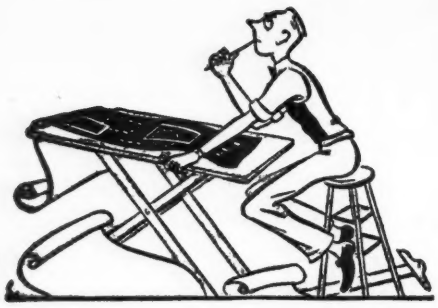


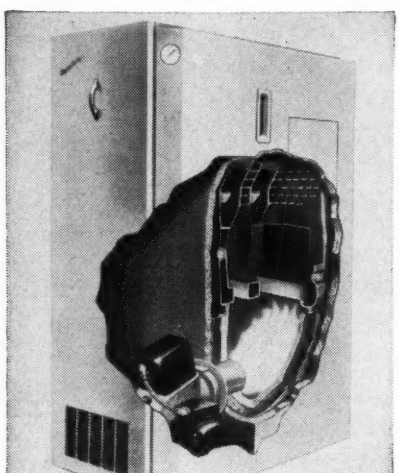
fueloil & oil heat



New Products

Burnham Announces Two Oilfired Boiler Units

AFTER MANY YEARS of working on the problem of developing an oilburner to be used with its Pacemaker and Yello-Jacket boilers, Burnham Corp., Irvington, N. Y., recently announced introduction of oilfired boiler units. The Burnham burner is flange-mounted, with the Yello-Jacket model featuring a double combustion chamber to increase the



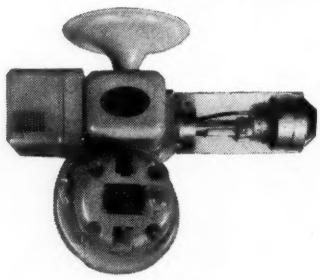
area of direct heating surface. Yello-Jacket units are available in sizes from 390 to 905 sq. ft. for steam, 625 to 1450 sq. ft. for hot water.

The Pacemaker boiler is the company's latest development in the low priced field. It features vertical flue travel, with two crown sheets. Boiler sections are shipped assembled from factory, with base fitted with refractory and sealed. The boiler can be bolted to the base while lying on its side and raised easily to a vertical position. Pacemaker models develop from 260 to 520 sq. ft. for steam, 415 to 830 sq. ft. for hot water.

Both boilers are of cast-iron construction, equipped with built-in storage and tankless water heaters, and can be furnished with flush or extended jackets.

Weatherall Burner Series With Electronic Turbulator Head

GUN TYPE conversion oilburners have been announced by Weatherall Engineers, Inc., Providence 4, R. I., equipped with a newly developed Electronic Turbulator head. The unit incorporates a patented air and oil mixing device, with



a Minneapolis-Honeywell electronic combustion control built-in. Field and laboratory tests have produced readings to indicate high flame temperatures and remarkably good CO_2 readings.

Primary air is supplied through adjustable intake holes, its function being to position the starting point of the flame and eliminate low pressure areas. Also, the quantity and velocity of secondary air may be adjusted. The blending of the oil spray with the primary and secondary air is accomplished so that high velocity air flares out to form the surface of a cone. Installation instructions caution that the width of the combustion chamber is more critical than its length due to the conical shape of the flame.

The Electronic Turbulator housing is machined accurately for proper alignment of all parts, with each unit undergoing factory tests before shipment. Ratings for standard models are 1 to 2.5 gph, with models available on special order for capacities from 2.5 to 5 gph. These larger models are furnished with 5" ID draft tubes.

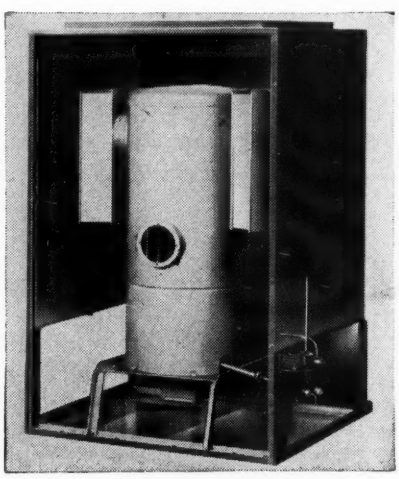
No. 63 McDonnell Cut-off For Boilers Up To 50 Lbs.

NO. 63 LOW WATER CUT-OFF, developed by McDonnell & Miller, Inc., Chicago 11, Ill., for application to automatically fired boilers carrying up to 50 lbs. pressure, affords positive shut-down in the event of low water in a hot water boiler. It is recommended also for application to automatically fired steam boilers in the middle range of pressures, from 20 to 50 lbs.

Designed for installation with 1" equalizing piping, the No. 63 combines design and construction principles worked out in other McDonnell products. All working parts are isolated from the heat of the float chamber and its sylphon bellows is up out of the water. All other working parts are made of non-corrosive materials.

Gopher Warm Air Furnaces Fired With Vaporizing Burner

OILFIRED warm air furnaces, available from American Gas Machine Co., Albert Lea, Minn., are equipped with vaporizing oilburners, featuring a modulating flame. Gopher units employ an oil control, whose bulb floats the oil metering stem up or down according to the demands of the thermostat, supplying a flame size in proportion to the amount



of heat loss. The 13" burner develops a Commercial Standards rating of 72,500 Btu/hr output.

Gases leave the main furnace body from body sides and feed into a crescent shaped economizer, resulting in a scrubbing action over the entire economizer area. Jacketed dimensions are 52" x 34½" x 30", with a flanged plenum opening, 23" x 27½". Standard equipment includes also a 1 gal. capacity, hand-filled humidifier.

The units are gravity models, but a blower assembly can be furnished to convert to forced circulation. The assembly is the same height as the furnace, is equipped with two 16" x 25" x 2" air filters and a furnace fan control, with liquid expansion temperature element.

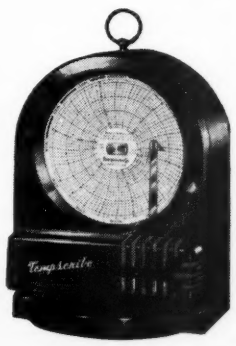
BACHARACH *Service* INSTRUMENTS

FOR THE HEATING, AIR CONDITIONING, AND REFRIGERATING TRADES

TRUE-SPOT SMOKE TESTER

Indispensable for checking burner for clean fire, simply by drawing, with six pump strokes, a sample of the combustion gases from the furnace flue, and comparing discoloration of the test disc with the smoke shadings on a unique "Scale of Soots." In connection with the FYRITE CO_2 Indicator this smoke test enables adjusting burner for the highest CO_2 without objectionable smoke.

TEMPSCRIBE RECORDERS



Air Temperature

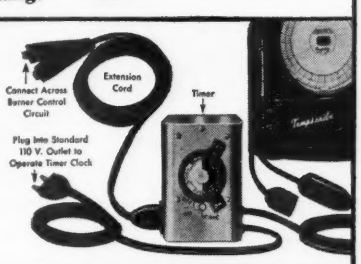
Widely used for recording new installation performance, balancing heating systems of every kind, trouble-shooting on service calls, and recording outdoor temperatures for "degree day" operations. Saves time, promotes customer goodwill, shows need for repairs or modernization.

Burner Operation

Provides the most convenient means of determining actual heat requirements of any kind of automatic heating installation. Also useful for adjusting fuel input rate of the burner and thermostat differential for proper "on-off" cycling.

TEMPSCRIBE TIMER

Makes possible to connect TEMPSCRIBE Operation Recorder in advance, to record burner "on-off" operation for one full chart rotation at any time during the following 24 hours.



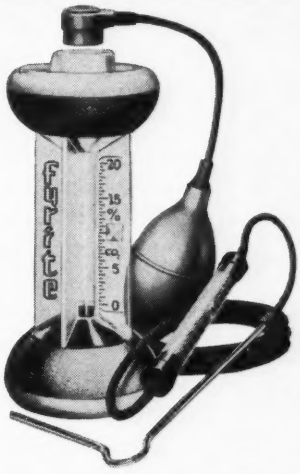
FLORITE AIR VELOCITY METER

RANGE
0-1000 Ft./Min.

A practical, accurate air velocity meter for heating, air conditioning, and ventilating work. Indispensable for checking rate of air delivery, balancing the system, and adjusting register deflecting vanes for "draft-free" air distribution. 8" wide scale, with 20 ft./min. scale divisions. Has unique scale lock which enables retaining reading until lock is released.

These instruments are real time-savers and goodwill builders in installation and service work—and the foremost tools in the selling replacements and fuel-saving services.

FYRITE CO_2 INDICATOR



The basic tool in fuel conservation sales and service. Outstanding for lastingly dependable service and strikingly functional design. Accurate within ½ of 1% CO_2. A CO_2 check-up with it takes less than a minute; requires no skill or special training. Comes complete with sampling tube, aspirator bulb, rubber tubing, and the unique Fire Efficiency Finder, all packed in steel carrying case.

DRAFT GAUGES

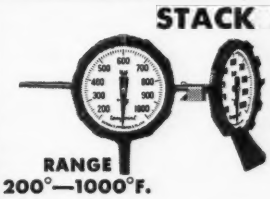
All-Purpose Style

Reads 0.25" on 3-inch scale. Has free movement at zero to indicate "puff-backs." Accuracy does not depend upon careful leveling. Comes with 9' of rubber tubing and 5" draft tube.

Pocket Style

Compact, handy... inexpensive — most practical draft gauge for natural draft "pot" type burners. Comes with 2 section tube, 5" long; all packed in leatherette case. Two ranges — 0.14" and 0.25" water, respectively.

STACK THERMOMETERS



Dial Type

RANGE
200°—1000°F.

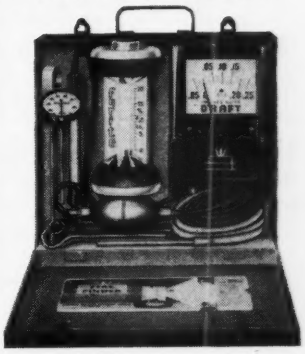
Practically unbreakable. Large dial and numbers make it as easy to read as a clock. Outstanding for quick thermal response. Has holding clip for permanent installation; convenient handle for portable use.

RANGE
100°—950°F.

Pocket Style

High quality mercury-in-glass thermometer. Annealed glass; and pressure filled for maximum shock resistance.

TESTING KITS FOR EVERY PURPOSE



For other Instrument Kits ask for Bulletin S49-1H

Ask your Jobber about these instruments or write for Bulletin G729.

BACHARACH INDUSTRIAL INSTRUMENT CO. • 7000 Bennett St., Pittsburgh 8, Pa.

NEW FILLING Z-I-P

WITHOUT A DRIP

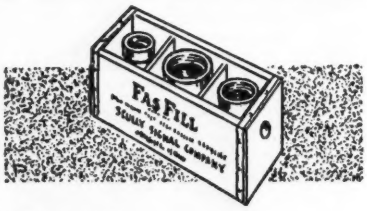
Simple hand-tight connection between Gun and Fill Pipe

$13.50 F.O.B. Factory

FASFILL saves time and money at every drop. Smoother, faster filling, yet never a blowback or fill drip. And FASFILL couldn't be easier to use. Every needed connection is at the driver's fingertips when he wants it. Easy hand turn puts it in place.

No buildups necessary. No tools involved. No matter if fill pipe threads are worn. Diaphragm and sealing point gaskets eliminate need for tightly threaded connecting joints.

Just shove gun nozzle through opening of flexible diaphragm in FASFILL head and let 'er go. Casing wall holds gun in position.



Light weight 3-compartment box carries ALL connections needed for making up to 1¼", 1½" or 2" male or female fill pipe.

SCULLY SIGNAL COMPANY
76 First Street
CAMBRIDGE 41, MASS.

FASFILL®

Its blower has a cfm range from 600 to 1000, variable speed pulley range from 475 to 655 cfm. The cabinet assembly may be secured to either side of the furnace.

Nu-Way Adds Transformers To Burner Items It Makes

FULL PRODUCTION of its own ignition transformer has been announced by The Nu-Way Corp., Rock Island, Ill., as another step in a program to manufacture as many parts and components for oilburners as can be done economically. The unit is manufactured primarily for use on Nu-Way burners. Transformer production facilities were purchased intact from a large manufacturer. No changes in design or material have been made on the item, which is Underwriters approved and incorporates a radio shield on which patents are pending.

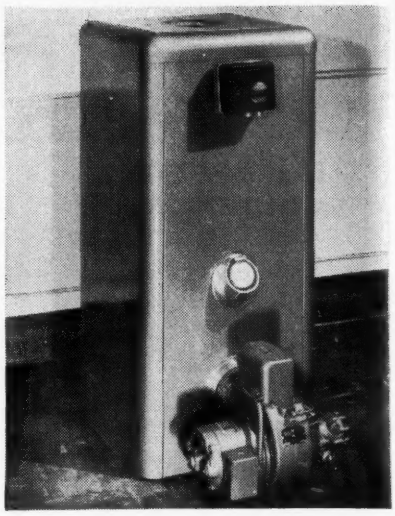
The transformer, suitable for continuous or intermittent operation, produces 10,000 volts at the secondary terminals, is a mid-point grounded type and made to withstand severe operating conditions. Its coils and laminations are subjected to high vacuum and heat before the moisture proofing compound is poured into place under high temperature.

Maid-O'-Mist No. 72 Valve Designed For Fast Venting

NO. 72 AUTO-VENT, expansion type air valve, available from Maid-O'-Mist, Inc., Chicago 41, Ill., has been designed and sized especially for installation on convectors, baseboard and free standing radiators. Its construction confines all expansion and contraction of special composition discs to four venting slots rather than around the entire valve seat. Coupled with its internal siphon tube, the design is described as providing exceptionally fast venting. Nonferrous metals are used throughout.

Sigwald Bantam Champ Is Hot Water Boiler Unit

THE BANTAM CHAMP hot water boiler, produced by Sigwald Engineering Co., Minneapolis 8, Minn., is fired with a gun type burner, available in two models. Model S-60 has a capacity of 350 sq. ft. of standing radiation; model S-120, 550

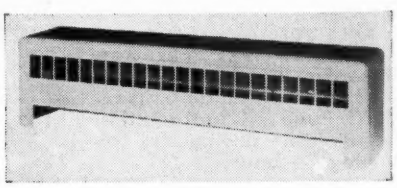


sq. ft. Either may be used as a hot water supply boiler, in which case capacities are 60 and 120 gals. of hot water per hour through a 100 degree rise.

Boiler sections are made of cast-iron. Units are compact, measuring 22" x 22" x 48", and both may be used for heating small homes using radiant panel, baseboard or conventional radiation systems, for large hot water supply and commercial water heating. The unit's flange-mounted burner projects 12" from the boiler casing.

Trane Convector-Radiator Offered In Three Types

UNIVERSAL TYPES of convector-radiators, announced by Trane Co., LaCrosse, Wis., are suitable for application on



either steam or hot water heating systems. The units fit snugly under windows, available in semi-recessed, fully recessed or free standing (illustrated) models. Units measure 12" high, in 4", 6", 8" or 10" depths.

Develop Automatic Lubrication For Pressurized Plug Valves

HYPERMATIC automatic lubrication for pressurized plug valves has been developed by the Nordstrom Valve Div., Rockwell Mfg. Co., Pittsburgh 8, Pa. The lubricant, perfected primarily for use in Nordstrom valves, is indicated to

Informed FLOOR Salesmen Can Pay You Hundreds of EXTRA Dollars Per Week

tell them about the A-P COMFORT MASTER

A-P AUTOMATIC CONTROL FOR OIL BURNING SPACE HEATERS!

IF YOUR salesmen *don't* know all about the COMFORT MASTER you're missing hundreds of dollars in fast easy sales — and the chance to please most of the space heater users in your town!

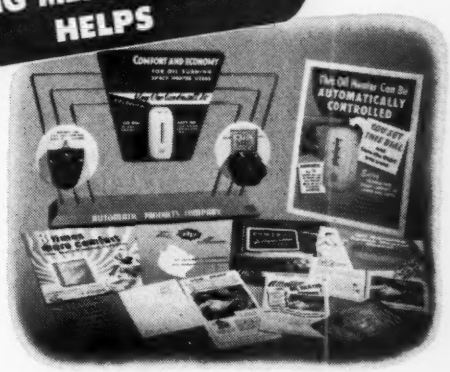
Give your salesmen a chance to develop NEW SALES TO OLD HEATER CUSTOMERS—and extra sales to new heater buyers — with COMFORT MASTER. Offers Automatic Temperature Control — heating comfort at the mere touch of Thermostat dial — to owners of new or old oil burning space heaters. Any heater made since 1939 and using A-P Model 240-D, U, or Y series manual controls.

There are OVER 4 MILLION prospective customers today for the A-P COMFORT MASTER . . . Hundreds in your own community!

HERE'S THE COMFORT MASTER FOR OIL HEATERS

A-P COMFORT MASTER Automatic Temperature Control for oil burning space heaters. Model 240-ED for standard circulators; Model 240ETS for fan-equipped heaters. Simple to install. Saves Oil; assures uniform temperature.

AND HERE'S SALES-MAKING MERCHANDISING HELPS



Colorful Counter Stand • Display Card for Heater Mounting • Mailing Folders • Newspaper Ad Mats • "Album" Listing A-P Equipped Oil Burning Appliances • Slide-Sound Film for Dealer Showing

*Actual spot checks showed 4 out of 5 salesmen had not been told about AUTOMATIC CONTROL possibilities of oil heaters.

DEPENDABLE *Controls*
for Oil . . . Coal . . . Gas Heating

RETURN THIS COUPON TODAY

AUTOMATIC PRODUCTS COMPANY
2450 North Thirty-second Street, Milwaukee 10, Wis.

Please send us the following at once:

. . . Complete information on A-P COMFORT MASTER for Oil. . . . Sales Helps. . . . Selling data for . . . salesmen.

Name.....

Address.....

City..... **State**.....

Signed by.....

Our Jobber is.....

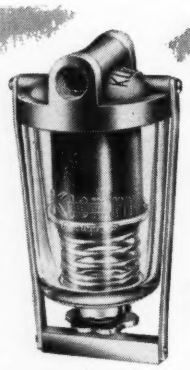
fueloil & oil heat

HERE GOES OUR LAST
Klemm FUEL OIL FILTER
CALL OUR JOBBER QUICK!

YOU, TOO, CAN MAKE EXTRA EASY SALES WITH KLEMM FUEL OIL FILTERS NOW

When serving your customers with Fuel Oil or cleaning their oil burners be quick to suggest a Klemm Fuel Oil Filter. Klemm Filters remove water, rust, and sediment of all kinds from oil . . . helps step up heating efficiency. Get a supply of Klemm Oil Filter units from your jobber TODAY. See for yourself how easily customers can be sold this highly profitable item.

A FILTER NOT A STRAINER



Model 430 G

Klemm Oil Filters remove all water, dirt, sediment, rust, and all foreign matter from fuel oil . . . help make customers happy with the oil you sell. Metal bowl units listed Underwriters' Laboratories. All sizes available for every filtering need.

ORDER A SUPPLY FROM YOUR JOBBER TODAY

SILENT SALESMEN

Packed 12 to a carton, Klemm JR model oil filters take little counter space yet do a BIG job of selling themselves. Customers are attracted TO and buy direct FROM this attractive display carton.

ATTRACTIVE DISCOUNTS TO JOBBERS AND DISTRIBUTORS. WRITE FOR FULL DETAILS TODAY.

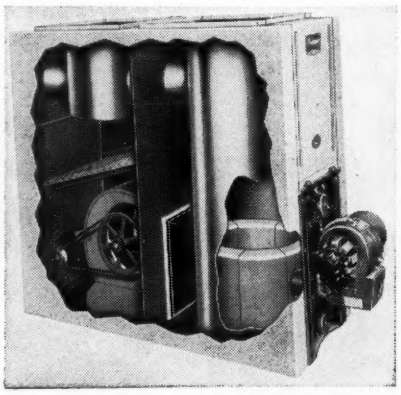
Klemm
AUTOMOTIVE PRODUCTS CO.
1718 N. Damen Ave., Chicago 47, Ill.

have applications in other fields.

Inserted in stick form, or by a high pressure grease gun, Hypermatic continues to exert pressure to fill lubrication voids until the confined pressure drops to a minimum of 50 lbs. The lubrication is self-energized and flows into voids and maintains an unbroken film surface. When the valve turning is complete, or any void is filled, the lubricant assumes its plastic form with all lubricated surfaces sealed. The company explains that the lubricant will not feed into the line, even though it is under pressure, since Hypermatic's physical properties resists replacement when spread out in a thin sealing film between the valve seating surfaces.

Thatcher Introduces 492 Series Furnace Unit

SERIES 492 oilfired furnace-burner unit has been announced by Thatcher Furnace Co., Garwood, N. J. Employing a



gun type oilburner, the series contains two sizes, developing outputs of 63,000 and 80,000 Btu at the register.

The oilburner is flange-mounted and fires into a tailor-made burner refractory combustion chamber. It features also a heavy gauge welded body and economizer and includes a resiliently mounted blower as standard equipment.

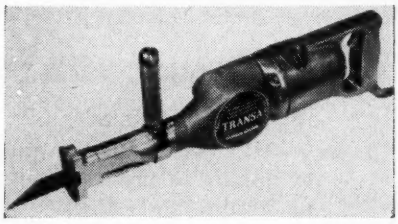
Midwest Offers Numbered Wire To Identify Circuits

DEVELOPED originally for use in its own air conditioning control systems, Magic-Wire now is being made available generally by Midwest Automatic Control Co., Des Moines, Ia. Each wire has its code number imprinted in bright red on every inch of yellow insulation, to permit quick and permanent identification of electrical circuits.

No. 16 solid wire, with plastic insulation, is a standard size, but other sizes and types, with any specified brands of wire, are made up on request. The numerals do not wash off or become discolored with age, nor is there any limit to the number of different numerals offered.

Transa Gun Type Saw For Use With Electric Or Air Drill

A RECIPROCAL gun type saw, made by Transa, Inc., Minneapolis 1, Minn., is a versatile, portable tool for cutting

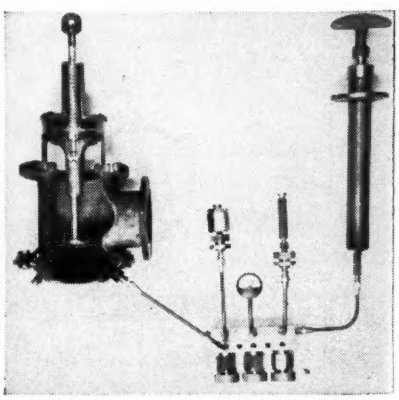


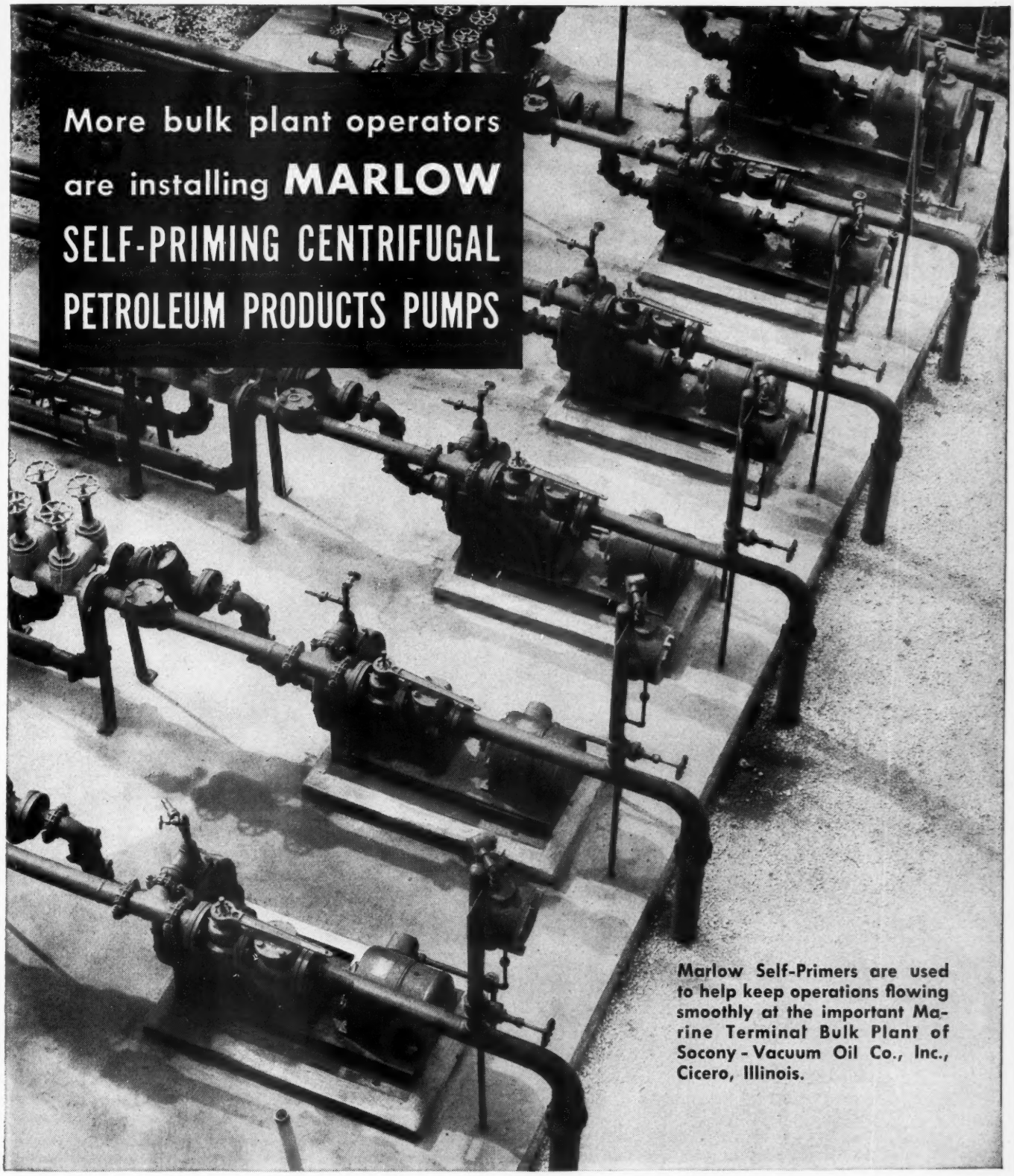
through materials ranging from rubber to stainless steel. The saw can be driven by an electric or air drill, or a flexible shaft and concentrates power on the cutting stroke by an arrangement of gears.

The stroke is adjustable up to a full 2". There are special guides for blade widths from ½" to 1", the guides also acting as sights in following a line. The unit, equipped with a handle which can be moved to any position, swivels 360° and locks in any cutting tangent.

Warren Manifold Valves For Use on Tank Trucks

MANIFOLD VALVES designed for tank truck use are being offered by the Betts Machine Co., Warren, Pa., described as affording faster unloading, added safety and less maintenance. The valves feature oil proof composition discs, extra large stem and parts with no gaskets between valves. Greater strength is achieved with

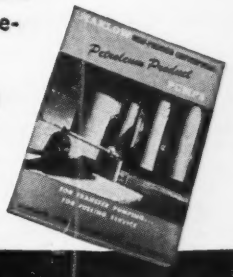




Marlow Self-Primers are used to help keep operations flowing smoothly at the important Marine Terminal Bulk Plant of Socony-Vacuum Oil Co., Inc., Cicero, Illinois.

Bulk plant operators, both majors and independents, are using Marlows more and more for dependable petroleum products pumping. That's because Marlows have so many advantages: Self-priming on suction lifts • Centrifugal action—quiet, efficient • Marlow self-compensating shaft seal • Higher capacity for size • No by-pass or pressure relief valves • Long Life and low maintenance • Continued high capacity.

Learn about all these advantages and more in the New Marlow bulletin, "Petroleum Product Pumps." Write for your copy today.



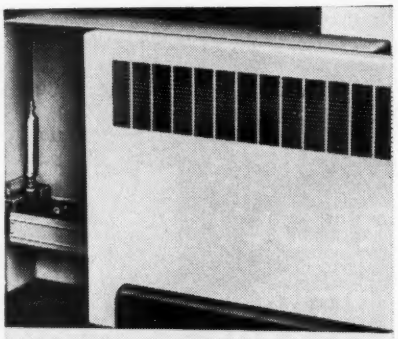
MARLOW PUMPS • RIDGEWOOD NEW JERSEY

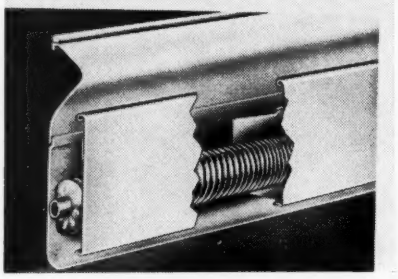
seamless steel tube construction, with welded construction employed to eliminate many joitns.

For faster unloading the valve's cylindrical manifold increases the free flow area and uniform cross section reduces turbulence. Each manifold is tailored to fit particular requirements, including the number of valves, size and location of connections and hanger brackets.

National Radiator Art Convectors And Baseboards

NATIONAL ART non-ferrous convectors and baseboard radiators have been added to the line of National Radiator Co., Johnstown, Pa. The convectors have heating elements of aluminum fins bonded to copper tubes, which, in turn, are silver soldered to cast-iron headers. Headers have top and bottom tappings of either ¾", 1" or 1¼". Enclosures are available for free standing, semi- or full recessed and wall hung installations. Air chambers are available for use on hot water installations, furnished with a bushing for attachment to the heating element, along with an air valve assembly. Standard sizes are 6", 8" and





Top: *Art convector.*
Bottom: *Art baseboard.*

10" depths, 20", 24" and 32" heights. Nominal lengths range from 20" to 64" in 4" or 8" increments. Dampers may be applied at time of installation or added later.

Heating elements of the baseboard units are made of ¾" commercial copper tubing, on which is bonded a series of helical copper fins. Hot water ratings range from 370 Btu/hr per lineal ft. at a water temperature averaging 170° F. up to 730 Btu/hr per lineal ft. with a water temperature averaging 230° F. Enclosures are steel, provided in the form of back and front panel assemblies. When installed semi-recessed along outer walls, Art Baseboard units extend 1½" into the room. They are not recommended for use in gravity hot water systems when installed lengths exceed 8 ft., but they can be applied to replace standing radiation and in new systems.

Perfection Stove Adds Model To Suspended Furnace Series

MODEL 540 Superfex oilfired suspended furnace unit has been added by Perfection Stove Co., Cleveland, Ohio. Rated at a maximum of 150,000 Btu output, the new model joins a line which includes a larger 200,000 suspended model. Model 540 features a cylindrical combustion chamber, made of chrome steel, resting on a stainless steel cradle to eliminate warpage and breaking from expansion. Its direct-drive 2-speed blower delivers

When you sell...

Gulf Fuel Oil...

You're selling...

clean heat, comfort!

Gulf Oil Corporation • Gulf Refining Company
DIVISION SALES OFFICES:
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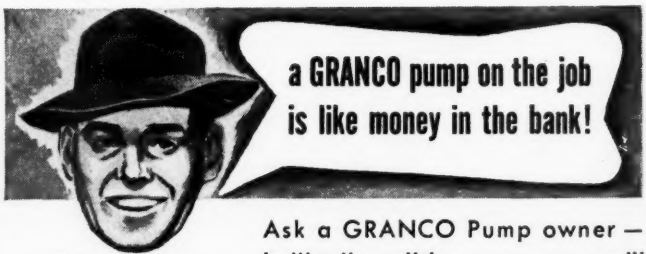
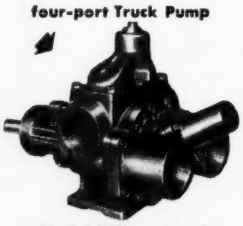
GULF



Model DEE 2-inch, four-port Truck Pump



Model DEE mounted, with oil-tight gear housing

Ask a GRANCO Pump owner — he'll tell you "*they save me money!*" Put a GRANCO Pump on your truck or pipe line and you'll say the same. Because . .

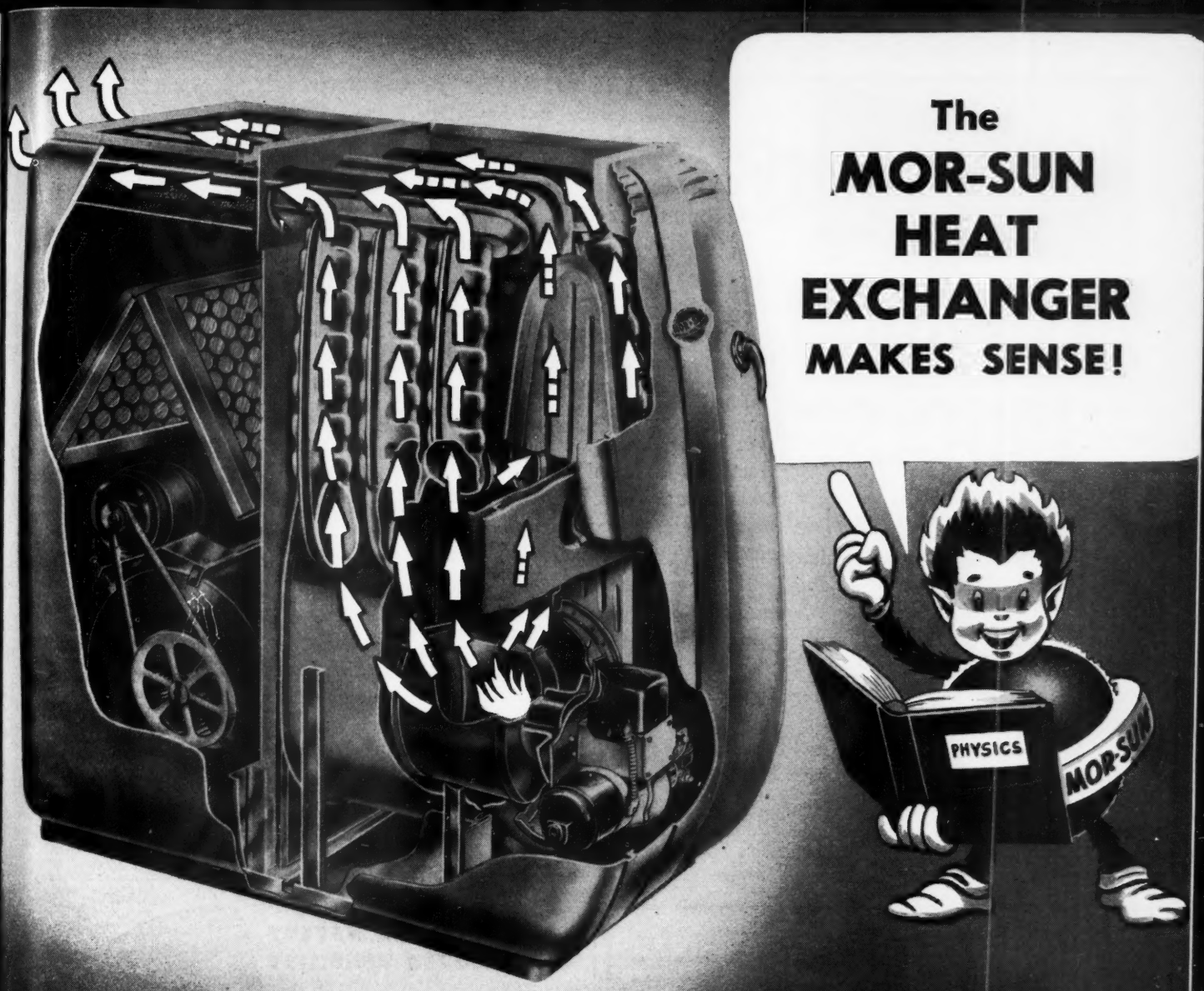
WITH GRANCO YOU GET

★ Low initial cost. ★ Lower installation cost — flexible four-port design mounts in any position. ★ More GPM per lb. of pump weight. ★ Less maintenance — single rotor, fewer moving parts. ★ Long, trouble-free service. ★ Integral dash-pot relief valve.

BUY GRANCO PUMPS — YOU'LL BE MONEY AHEAD!

Write today for new Pump Bulletin 114E, 126B

GRANBERG CORPORATION **Granco**
OAKLAND 8, CALIFORNIA ★ Makers of Rotary Positive Displacement Pumps and Meters for all Petroleum Products
Sales and Service at your service throughout the nation



NATURALLY, we are happy that everyone considers the MOR-SUN casing *the most beautiful furnace casing on the market!* That is an important feature in these days of attractive basement playrooms. However, the insides of the furnace are the most important thing in the long run. Of course, MOR-SUN engineers designed the heat exchanger first, and then designed a functional and beautiful casing to go around it.

You know that heat naturally travels upward. In the MOR-SUN heat exchanger (illustrated herewith), you notice that no attempt has been made to deviate the flow of gases from its natural course! Gases go upward and outward, through a vertical pyromanifold, and through the horizontal pyrovents. You note, also, that some of the gases escape through a tube venting from the top of a combustion area.

All parts of this heater exchanger are die stamped of 12-gauge metal. You see that the stampings include various irregularities, designed to give additional strength. All heating surface is, therefore, *primary heating surface*, giving *maximum efficiency of operation!*

Beauty on the outside and rugged efficiency on the inside! But the MOR-SUN gives even more — dependability — through use of quality control equipment. It gives economy of first cost — due to modern mass production methods. It gives economy of operation proven by laboratory and field tests.

All these the pressed steel MOR-SUN forced warm air furnaces — all these things that assures the home owner of value received!

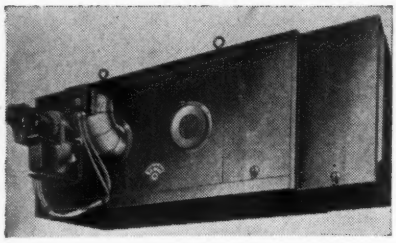
MOR-SUN FURNACES FOR GAS, OIL, VAPORIZING OIL AND LIQUID PETROLEUM *are similar in appearance and basic principle. However, maximum efficiency for fuel specified is assured by differing features of detail in design and construction.*

MOR-SUN PRESSED STEEL FURNACES

MORRISON

"The Sun Never Sets With MOR-SUN"

STEEL PRODUCTS, INC. BUFFALO 7, N.Y.



1800 to 2000 cfm and is equipped with adjustable fan blades.

Units are delivered completely equipped with pressure atomizing oil-burner, controls and wiring. Entire furnace weighs 600 lbs.

Imperial Rol-Air Tool Both Flares and Burnishes

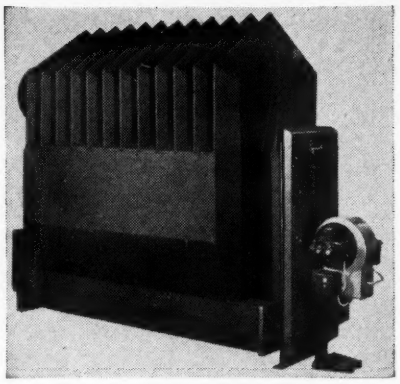
ROL-AIR flaring tool, announced by Imperial Brass Mfg. Co., Chicago 7, Ill., has three rollers embodied in the spreader cone and rolls out flares with the tubing extended above the face of the flaring block. Original wall thickness is maintained, giving a stronger flare. After flaring, the tubing is burnished by turning the operating handle two more revolutions, with the control knob in burnishing position.

Rol-Air flares ¼", 5/16", ⅜", ½" and ⅝" O.D. tubing and has a die holder with heat treated sliding dies.

Syncromatic Hi-Cap Furnaces Available In Ten Capacities

TEN MODELS of Hi-Cap oilfired steel furnaces have been developed by Syncromatic Corp., Watertown, Wis., for commercial applications. Capacities range from 330,000 to 1,000,000 Btu bonnet outputs, gph ratings for the gun type burners that fire the units ranging from 3 to 9.75. All parts of the heat exchangers are made of 3/16 steel plate, with double welded seams inside and outside. V-type flues are employed.

If necessary, the units can be installed in multiples for zoning larger installations and heat exchangers can be furnished knocked down with "loktite" construction to permit passage through a 36" door, or in a seamless one piece unit. Blowers may be placed on either side of the furnace, whose construction features the counterflow principle for the passage of flue gases. The blower and



furnace casing of the Hi-Cap units are constructed to permit the use of an intermediate cooling system section between them.

Thread-Tite Pipe Compound Furnished In Stick Form

THREAD-TITE, a product of Armite Laboratories, Los Angeles 1, Calif., is a pipe sealing compound, furnished in stick form with a metal cap. Applied to pipe threads it is designed to prevent seizing or galling and to permit, due to its lubricating qualities, pipe joints to be drawn tighter than normally is possible.

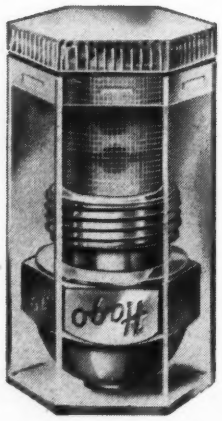
FOR BEST

PERFORMANCE

USE

HAGO

PRECISION NOZZLES



HAGO PRODUCTS

1281 SPRINGFIELD AVE., IRVINGTON 11, N. J.

FOR GREATER SAFETY ... CLEARER VISIBILITY

this Gauge wears a DOUBLE dome!

● Double Dome walls of clear plastic that is shock-proof and break-proof gives Sentry At-A-Glance tank gauges distinctive advantages. This patented feature will withstand air pressure in excess of 100 lbs. per sq. inch — Condensation will not cloud or affect its easy readability — It is guaranteed leakproof — and listed as standard by Underwriters' Laboratories. Write for details today. Investigate too, Sentry Draft Controls, for more efficient stack operation.

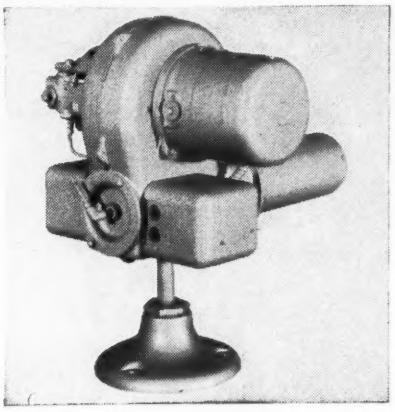
ON GUARD ... *24 hours a day!*

KRUEGER *Sentry* GAUGES

GREEN BAY • WISCONSIN

Airtemp Gun Burner With Wide Capacity Range

A GUN TYPE OILBURNER, with a capacity range from ½ to 4½ gph, has been announced by Airtemp Div., Chrysler



Corp., Dayton 1, Ohio. The wide range of oilburning capacity is obtained by the use of four interchangeable heads, permitting dealers to stock one oilburner for a variety of installations.

The burner features an integral primary relay mounted on the burner and factory wired. Its low voltage combustion control operates on Class II circuit, eliminating conduit except for power supply.

Announce Line Of Samco Oil Drum, Barrel Faucets

AVAILABLE in grey iron or malleable aluminum alloy are models of Samco oil drum and barrel faucets, announced recently by Syracuse Alloy Metal Corp., Syracuse 2, N. Y. They are of the self-closing, lock lever type, featuring a long outlet nozzle. The self-closing valve is of cold rolled steel, with Hycar Neoprene replaceable disc seat, and a clean-out plug having a flange holding under pressure a Neoprene sealing ring.

Thermbloc For Process Work Is Direct-Fired Unit

FOR SPRAY BOOTHS or drying rooms, requiring temperatures up to 500° F., Prat-Daniel Corp., East Port Chester, Conn., has announced a Thermbloc gas or oilfired industrial heating unit. Employing forced air circulation, the units develop up to 550,000 Btu/hr. and are designed to recirculate air until the desired temperature is attained. Heated air then is discharged continuously at the temperature desired.

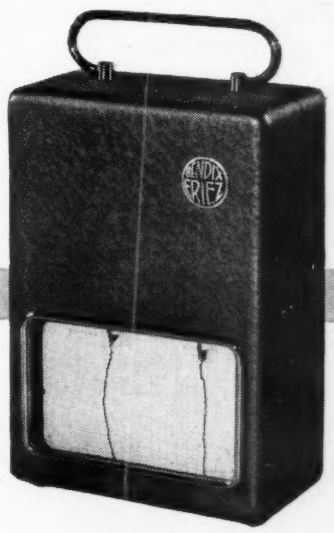
KEEP POSTED on RELATIVE HUMIDITY and TEMPERATURE

Only genuinely accurate information will do when you are dealing with these important factors.

This new and indispensable instrument for heating and air conditioning installations and service work is built by the manufacturer of the world's finest meteorological devices—suppliers to the United States Weather Bureau for over 70 years. Its accuracy is unchallenged—and the data it produces can be relied upon to give you exactly the facts you need. Remember, whatever your needs for humidity and temperature data, or wherever you need to collect them, Bendix-Friez makes the best instruments for the purpose.

BENDIX-FRIEZ
Portable Humidity and Temperature Recorder, Model 160—

3" x 5" charts, 8 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.



BENDIX FRIEZ

FRIEZ INSTRUMENT DIVISION of
1330 Taylor Avenue
Baltimore 4, Maryland

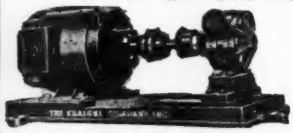
Bendix AVIATION CORPORATION

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

KRAISSL

PUMPS AND SEPARATORS
FOR OIL BURNER SERVICE

CLASS 50 LIGHT OIL PUMPS
Direct Drive For
#1 to #5 Oils Inclusive



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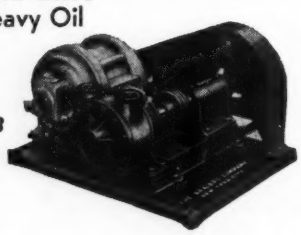
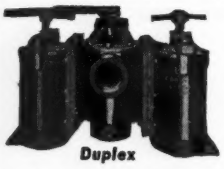
CLASS 60 HEAVY OIL PUMPS
Reduction Drive
For Heavy Oil

Ask For Bulletin No. A-1193



CLASS 72 STRAINERS—FILTERS
Single and Duplex
Standard and High Pressure
Baskets instantly and easily changed
— eliminates filter replacement costs entirely.



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Single

FOR BULK STATION SERVICE

CLASS 60M MOTORED PUMPS
Direct Drive
For Exclusive Use With
Light Oils and Solvents

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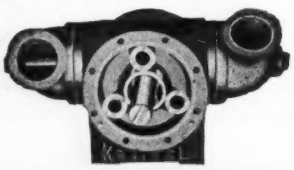
CLASS 80 TRI-ROL PUMPS
Interchangeable Service
Both Light and Heavy Oils
Tank Truck and Bulk Station

Ask For Bulletin No. A-1366



KRAISSL CO. Inc.
295 WILLIAMS AVE., HACKENSACK, N. J.

Manufacturers Activities

American-Standard Collects Room-of-Month Ideas In Book

SIXTEEN of the most popular Room-of-the-Month ideas, which American Radiator and Standard Sanitary Corp., Pittsburgh, Pa., have been mailing to plumbing and heating retailers for several years, have been enlarged and reproduced in their original colors in book form. The 42-page brochure is entitled, "Modern Room Ideas for Better Living," and can be purchased for one dollar from American-Standard wholesale distributors.

Included in the collection is an 11-page section on basement planning, including five layouts, featuring American-Standard heating equipment, a page of pictures and data on heating units offered. A layout also depicts a typical baseboard radiator installation.

The book is intended to be used as a sales tool, either for new home builders or for those who are considering modernizing existing houses.

Oil-O-Matic Promotes And Adds Sales Personnel

PROMOTIONS AND ADDITIONS to its sales department personnel have been announced by E. H. Davison, general sales manager, Williams Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill.

Shoemaker

J. H. Shoemaker has been named assistant to the general sales manager, a promotion from his former position as Oil-O-Matic district sales representative in New England. Ralph H. Ellerbrock, who for the past twenty-five years has been engaged in various capacities in the procurement and production departments for Oil-O-Matic, has been appointed manager of brand name sales, succeeding W. A. Matheson, Jr., who resigned recently.

Among the district sales force the following changes were made: William A. Sayler, who had been divisional sales manager for Wayne Home Equipment Company's heating division, is operating as Oil-O-Matic district sales representative in Ohio; Robert Davis has been retained as representative in upper New York state and W. C. Barrett will handle Oil-O-Matic heating equipment sales in Connecticut and part of Massachusetts. Mr. Davis formerly was sales engineer for Clark Industries in Illinois; Mr. Barrett, sales manager for George M. Clemons Plbg. & Htg. Co., Janesville, Wis.

Top, left, **Ellerbrock;** *right,* **Sayler.**
Bottom, left, **Davis;** *right,* **Barrett.**

Harvey Becomes Detroit Lub. Depot; Names Kollet Supply

THE SID HARVEY Associated Companies have been appointed field replacement depots for Detroit Lubricator Co., Detroit, Mich., according to an announcement released by Sid Harvey, Inc., Valley Stream, N. Y. Under the agreement, Sid Harvey branches in Boston, Newark, Philadelphia, Baltimore and Washington, in addition to the main office, will replace, at no charge, any Detroit Lubricator products that are found to be defective within the guarantee period. Each Harvey store has been stocked with replacement units. The actual rebuilding will be done at Valley Stream.

In Reading, Pa., the Kollet Oil Burner Supply Co. has been designated a Sid Harvey distributor, to carry a complete

One pebble can make a lot of ripples

TALK about just one poorly adjusted oil-burner can spread widely enough in neighborhood circles to endanger a lot of prospective burner and fuel oil sales. Poor adjustment means smoke . . . smoke means soot . . . and soot raises consumer's fuel cost as well as his doubts about the cleanliness of Oil Heat in general.

Long aware of this potential hazard to the fuel oil business, Shell research has concentrated upon the effect of smoke on boiler efficiency. Continued studies have led to important advancements, two of which are:

1. Setting up of the Shell Smoke Test*, which for the first time provides a simple, accurate method of recording the smoke content in flue gas . . . and of making direct comparison checks on combustion efficiency.

2. Improvements in Fuel Oil Quality. It is no accident that Shell Fuel Oil is known throughout the oil heat industry as the clean burning fuel. It is made to be that way. That too, is why Shell Fuel Oil is a favorite among oil burner dealers for demonstrating the advantages of Oil Heat.

This is tangible evidence of Shell's policy, "Better Oil Heat". . . a program of benefit to consumer, dealer, and manufacturer alike.

*A compact instrument for conducting the Shell Smoke Test is manufactured by Bacharach Industrial Instrument Company, Pittsburgh, Pa., from whom you may obtain full details.

line of oilburner supplies and parts, as well as a stock of Harvey rebuilt pumps, valves, transformers, controls and similar items. Peter B. Kollet, who formed the new company, was one of the original employees of Sid Harvey of Pennsylvania.

Penn Electric Switch Sets Up Authorized Service Stations

A CHAIN of authorized service stations has been established by Penn Electric Switch Co., Goshen, Ind., according to an announcement by Ralph H. Luscombe, general sales manager. To assist the stations in servicing Penn controls, company engineers have devised a control analyzer, a panel containing instruments to test control electrical circuits.

The stations have been selected not only for their ability to meet Penn's requirements, but for their strategic location in relation to an individual area's service requirements. Personnel from the stations are given a course of factory training, instructed and supervised by Penn's service experts. The training emphasizes design, construction and operating characteristics of controls, particularly the techniques and procedures to keep them operating at top efficiency and the "know-how" to diagnose difficulties and make adjustments or repairs

quickly. All stations are authorized to make replacements under Penn's warranty and under the company's flat price replacement plan.

Ray Oil Burner Co. Names Philadelphia Distributor

THE APPOINTMENT of Enterprise Combustion Engineering Co., Philadelphia 4, Pa., as distributor for the Ray Oil Burner Co., San Francisco, Calif., has been announced by Russell C. Westover, Jr., Ray's president. The distributor will operate in Philadelphia and its suburbs, as well as the neighboring cities of Reading, Lancaster, Easton and Chester.

The company was established in 1937 by James A. Vail, president and sales manager, and Harold Penney, vice-president in charge of engineering and will now feature the complete line of Ray industrial, commercial and domestic oilburners. Mr. Vail, before joining with Mr. Penney to establish Enterprise, had spent five years with the firm that then distributed Ray in Philadelphia. Mr. Penney is recognized as one of the state's most capable combustion engineers.

Sigwald Engineering Named Midwest G & B Distributor

IN A LETTER to dealers in its territory, Sigwald Engineering Co., Minneapolis 8, Minn., revealed it had been appointed exclusive Upper Midwest distributor for Gilbert & Barker's line of heating equipment. Sigwald will handle G & B oilburners and units, including ceiling-suspended furnaces and will franchise dealeres throughout its area.

GENERAL CONTROLS

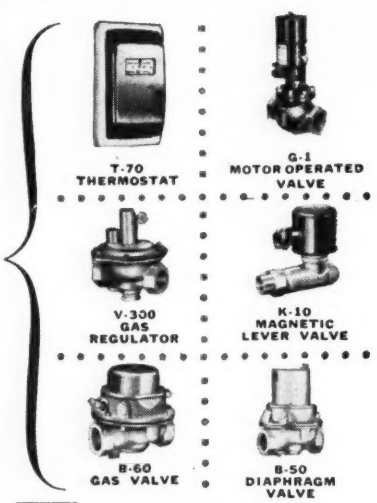
Takes the MANual out of Controls

They're Automatic!

For all *Pressure, Temperature, Level and Flow Control* applications using all kinds of gases, liquids, and air.

It's profitable! Because antiquated automatic or manually operated controls hold down your profits! That's true whether you are a manufacturer, wholesaler, dealer or user.

- "ALL-GAS" CONTROL SYSTEMS
- AIRCRAFT CONTROLS, ELECTRIC
- AUTOMATIC SAFETY SHUT-OFF VALVES
- MOTOR OPERATED VALVES
- MAGNETIC GAS VALVES
- SOLENOID VALVES
- THERMOSTATIC CONTROLS & CONTROL SYSTEMS
- GOVERNOR-TYPE VALVES
- HI-LOW-OFF VALVES
- DIAPHRAGM VALVES
- LIMIT CONTROLS
- ELECTRIC TIME SWITCHES
- REFRIGERATION VALVES
- GAS REGULATORS
- LOW WATER CONTROLS
- STRAINERS, RELAYS
- TRANSFORMERS, SWITCHES
- PORTABLE EQUIPMENT CONTROLS
- MACHINE TOOL CONTROLS



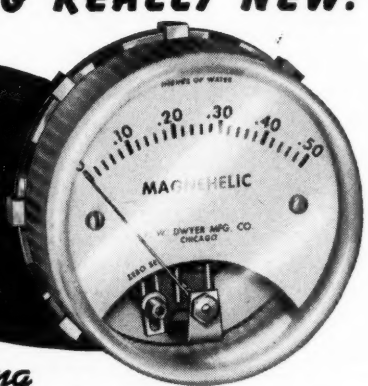
GENERAL CONTROLS

Manufacturers of Automatic Pressure, Temperature, Level & Flow Controls

Factory Branches: Birmingham (3), Boston (16), Chicago (5), Cleveland (15), Dallas (2), Denver (10), Detroit (8), Glendale (1), Houston (6), Kansas City (2), New York (17), Oklahoma City (1), Philadelphia (40), Pittsburgh (22), Seattle (1), San Francisco (7), St. Louis (12) • DISTRIBUTORS IN PRINCIPAL CITIES

SOMETHING REALLY NEW!

DWYER MAGNEHELIC GAGES



For Measuring

- Filter Resistance
- Air Velocity
- Furnace Draft
- Fans & Blowers
- Gas & Static Pressures

DWYER Bulletin 250 gives you full details. Write for it!

THIS IS REALLY IT . . . a pressure gage that's compact, long lasting, and highly accurate — with no bearings or links to wear out!

DWYER Magnehelic Gages, featuring a helical magnetic linkage, are sensitive to ¼ of one thousandth of an inch magnet movement. Give you Plus, Minus and Differential readings . . . cannot be damaged by over or under pressures high as 5 lbs. PSI. Portable and stationary models, with ranges from 0-½" of water up to 0-12" of water.

F. W. Dwyer Mfg. Co.

315 SOUTH WESTERN AVENUE, CHICAGO 12, ILLINOIS

Revere Booklet Outlines Radiant Panel Design

A PROCEDURE for radiant panel heating design so simple that it can be used by the average dealer without engineering training, is set forth in a new 28-page booklet issued by the Research Department of Revere Copper and Brass Incorporated and titled "A Simplified Design Procedure for Residential Panel Heating."

The procedure is intended for residences and other non-mechanically ventilated structures, the introduction points out. Analysis of hundreds of installations designed by painstaking graphical methods showed that the basic data needed for the design can be obtained from answers to five specific questions:

1. Is the structure uninsulated or are exposed walls, floor, and/or ceiling insulated with a material of average effectiveness?
2. Is the window area representative of average construction or—as in the case of a solar house—is the glass area substantially in excess of average?
3. Are the windows of single glass or is double glass (or storm windows) used?
4. If a ceiling panel is used, is the basement (or other space below the floor) heated or unheated? If a floor panel is used, is the attic (or other space above the ceiling) heated or unheated?
5. How many sides of the room are exposed?

Once this data is assembled, by reference to tables it is possible to work out the design without equations, graphs or other tools of the engineers.

In addition to instructions for obtaining data and using the tables, the booklet contains all the necessary installation details and a number of hypothetical problems with the solutions.

Cities Service Takes Over Eastern Marketing Of Conoco

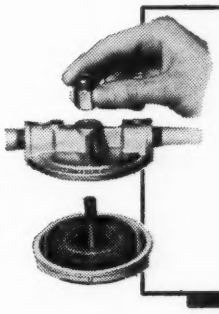
A JOINT ANNOUNCEMENT by the two companies on October 15 revealed that Cities Service Oil Co. had taken over the eastern marketing properties of Continental Oil Co. The facilities, valued at approximately $7,500,000, will supply

ALL YOU NEED NOW to Filter Any Domestic Oil Burner IS A CUNO FILTER

One model Cuno MICRO-KLEAN Oil Burner Filter handles any installation using domestic fuel, from the smallest cottage to the largest public building. Straight line pipe connections.

ALL YOU NEED NOW to Service an Oil Burner Filter IS A CUNO CARTRIDGE

One standard MICRO-KLEAN cartridge fits any MICRO-KLEAN filter—only one size to lug to the job. Cuno down inventory, too.



ALL YOU NEED NOW for 60-Second Service IS A CUNO FILTER

Removing a single nut on the MICRO-KLEAN filter loosens housing cover for 60-second cartridge replacement.

ALL YOU NEED NOW to Insure User Satisfaction IS A CUNO FILTER

MICRO-KLEAN cartridges give your customers better service because they will not channel, they last twice as long and hold twice as much dirt.

To insure customer satisfaction and save installation time . . . ask your jobber about Cuno MICRO-KLEAN Oil Burner Filter Model 1C1.

FOR FREE BULLETIN, ATTACH COUPON TO YOUR LETTERHEAD

CUNO

OIL BURNER FILTERS

Easier to Stock . . .
Easier to Service

Cuno Engineering Corporation
856 South Vine St., Meriden, Conn.

Please send information on Cuno MICRO-KLEAN Oil Burner Filters and replacement cartridges.

Name.....

Title.....

Company.....

Address.....

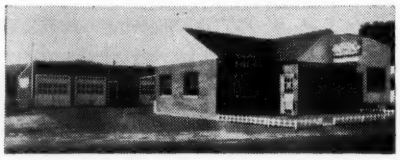
distributors of gasoline, kerosene, fuel and lube oils from New York to Florida. Ocean terminals involved are located at Baltimore, Norfolk and Wilmington, N. C., strengthening Cities Service position in Baltimore and Washington markets and opening up new marketing areas in Virginia.

Conoco's withdrawal from direct marketing in the East was explained as a final step by Continental to shift its marketing investment to the Middle West, Southwest and Rocky Mountain areas. The majority of Continental's personnel will be retained by the new management, except for certain senior employees who will be assigned to other Conoco operations.

Bristol Oil-O-Matic Dealer Centralizes Its Operations

BRISTOL OIL HTG. CO., Williams Oil-O-Matic dealer in Bristol, Conn., has centralized its operations in a new office building and showroom. Approaching its 30th anniversary in business, A. J. Koziell, head of the firm, describes the new building as allowing a completely integrated fueloil and oilburner operation, with provision for storage and service facilities, a bulk plant and garages.

Upon entering the building, a visitor is ushered into a showroom, where the entire Oil-O-Matic line is displayed,



with business offices adjacent. A radiant heating system, with piping buried in the floors, is controlled through an outside weather control. To the rear of the showroom are located the garages and shop, along with underground storage facilities for 30,000 gals.

The firm began in 1919, selling appliances and doing electrical contracting. Mr. Koziell added oilheating equipment in 1930, while continuing in the appliance business. In 1939 he took on Oil-O-Matic's line and fueloil service as the beginning of a major effort in oilheating.

World's Largest Cat-Cracker Dedicated By Esso Standard

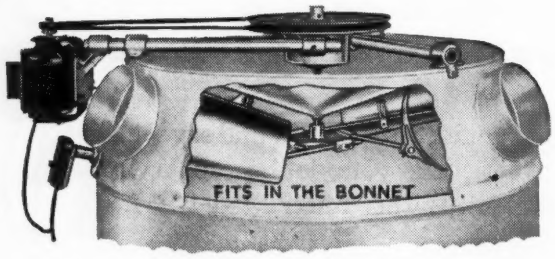
DEDICATION of the world's largest catalytic cracking oil unit was held by Esso Standard Oil Co. at its Linden, N. J., refinery on October 17. The 41,000-barrel-a-day unit is part of a two-year program of major expansion. Other new facilities include a 40,000 barrels daily vacuum pipe still to prepare feed stock for the cracking unit, additional steam and generating equipment, new salt water pumping and distribution systems.

The "cracker" and pipe still between them consume 37 million gallons of salt water daily, less than 1/6 of the capacity of the new system. In spite of the cracking unit's record capacity, only three seven-man shifts are required to supervise its largely automatic operation.

Gulf Dedicates Leovy Oil Prospecting Laboratory

MARKING local observance of "Oil Progress Week" in Harmarville, Pa., Gulf Oil Corp., Pittsburgh 30, Pa., on Octo-

Now CONTROL HEAT DISTRIBUTION ON GRAVITY FURNACES with CIRCULATAIRE



EASILY-QUICKLY INSTALLED, WITHOUT REMOVING BONNET!

No damage to firepot caused by force of cold air on hot castings as occurs with other types of conversion blowers.

Include a CIRCULATAIRE with each new gravity job and also take advantage of the thousands of gravity furnaces in your community that need a CIRCULATAIRE to balance heat distribution.

NOW READY! New CIRCULATAIRE Selling Aids help you sell CIRCULATAIRES and boost new furnace sales.

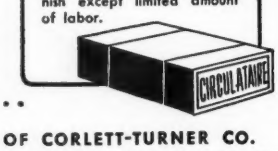
GET THE FACTS TODAY! WRITE . . .

NO COLD POCKETS!

EVENLY HEATED AIR ENTERS ALL FURNACE PIPES!

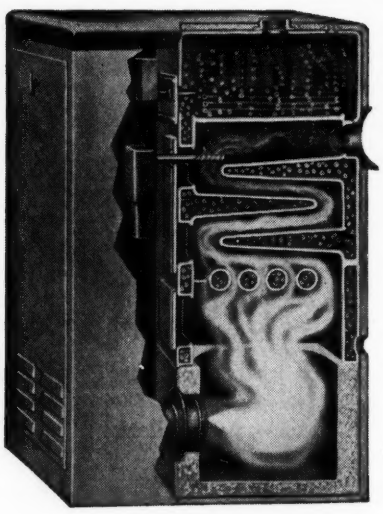
NO NEW SHEET METAL WORK REQUIRED!

A COMPLETELY PACKAGED UNIT
Nothing for the dealer to furnish except limited amount of labor.



"CIRCULATAIRE" DIVISION OF CORLETT-TURNER CO. 1007 S. KOSTNER AVE., CHICAGO 24, ILL.

Steel HEATING UNIT



Licensed under U. S. Pat.

Write for full particulars about Exclusive Franchise for your territory on our full line of MAGIC-HEAT Boilers and Boiler-Burner Units.

Magic-HEAT

Product of
MARIETTA METAL PRODUCTS CORPORATION
MARIETTA, PENNA.

SUBSTANTIAL PROFITS *for* YOU—

Cleaning Furnaces with the GRAND RAPIDS *De Luxe* FURNACE CLEANER

You can put furnace cleaning on a money making basis by using a Grand Rapids Furnace Cleaner. High velocity suction scoops up all deposits of soot, ashes and carbon, cleaning the heating plant and re-establishing full efficiency. Special attachments clean flues, radiators, right angle turns and other hard-to-reach areas. The job is done quickly and completely. Customers are highly satisfied.

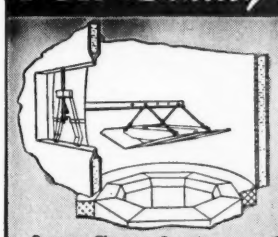
The Grand Rapids DeLuxe Furnace Cleaner is also your "in" for more than cleaning profits. By checking over and inspecting the heating plant as you clean it you are in a position to make timely recommendations for new equipment or repairs. This means better service for customers . . . more profits for you.

Write for complete information and prices today.

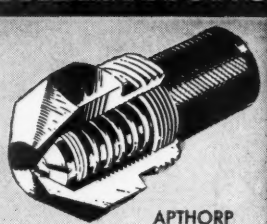
DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Mich.

FOR Quality INSTALLATIONS



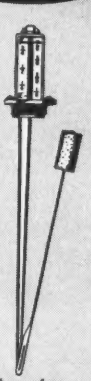
Boston Chrome Steel "HANG-DOWN" BAFFLE

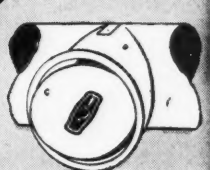


APTHORP True Alignment OIL BURNER NOZZLE

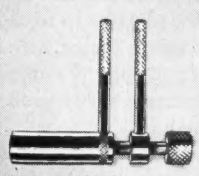
BOSMACO

Instant-Glo COMBUSTION CHAMBER





The Boston Standard DRAFT CONTROL



Ideal NOZZLE EXTRACTOR

Clearview OIL TANK GAUGE

BOSMACO Apthorp NOZZLE KIT

WRITE FOR COMPLETE INFORMATION

BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

Here's the Radiator Valve that Automatically

KEEPS EACH ROOM AT THE DESIRED TEMPERATURE

Modern heating men insert Heat-Timers in place of ordinary radiator air valves. For this precision, thermostatic valve enables your customers to enjoy the exact temperature they want *in each room.* They simply set the dial – Heat-Timer does the rest. Over 50,000 Heat-Timers are giving superb service today! Heat-Timer works on any one-pipe steam system...makes all other valves old fashioned.

Costs A Little More... WORTH *Lots* MORE!

Besides giving added comfort, Heat-Timer actually pays for itself in fuel savings. Your customers will gladly pay the small extra cost of Heat-Timer when you explain its advantages. Heat-Timer retails at $4.95 each – you get your usual discount.

At Your Jobber's—Or *Write for Sample*

Your jobber has Heat-Timer valves, or can get them quickly. If you would like a sample for yourself, mail us the coupon below with $3.50 and we will send you one postpaid by return mail. Free folder gladly sent on request.

F-2

HEAT-TIMER CORPORATION 160 Fifth Ave., New York 10

☐ Please send me 1 Heat-Timer valve, postage-paid, for which I enclose $3.50.

☐ Please send me free literature without obligation.

Individual_____

Company_____

Address_____

My jobber is_____

ber 19 dedicated the Leovy Laboratory of Geophysics, described as the world's most modern and complete building to be used entirely for the scientific direction of oil prospecting operations and research. The laboratory honors the memory of the late Frank Adair Leovy, a pioneer advocate of the use of sciences in oil exploration. It is the largest of more than 40 buildings on the 57-acre research center tract of the Gulf Research & Development Company.

Its two stories and basement provide approximately two acres of working space and contain 126 laboratories, offices and service rooms. S. A. Swensrud, Gulf's president, presided at the dedication ceremonies. Miss Helen Walton Leovy responded for her father, who died in June of this year.

Penn Los Angeles Office Moves To New Location

THE LOS ANGELES district office, Penn Electric Switch Co., Goshen, Ind., has moved to 228 Glendale Blvd., Los Angeles 26, Calif. E. M. Ford, district manager, revealed the change in address for the office, which stocks a complete line of Penn controls for heating, air conditioning and similar applications.

Waterbury Offers Dealer Tie-in With Its National Advertising

IN THE OCTOBER ISSUE of *Better Homes and Gardens* and in *House Beautiful's* Maintenance and Building Manual, published at about the same time, Waterman-Waterbury Co., Minneapolis 13, Minn., advertised its furnaces and air conditioners. Both featured the company slogan, "It's what's under the casing that counts," and offered copies of "Seven Steps to Indoor Comfort" and literature on the units.

To enable local dealers to tie-in with the advertising, Waterman-Waterbury prepared for their use two mats for newspaper advertising, identifying the dealer as an outlet for the equipment advertised to the magazines' 4,000,000 readers. The newspaper copy explains that the local organization is an authorized Waterman-Waterbury dealer, trained and qualified to make efficient installations. The copy further emphasizes the scope of the Waterbury line for all sizes of homes, all types of fuel.

Trane Booklet Tells How To Recess Convector Units

THE EASE with which convectors can be recessed is explained in an illustrated booklet available from The Trane Co., La Crosse, Wis. "How to recess Type A convectors" is the title of the book for which a wall section was built and a series of photographs taken. They show, step-by-step, the sequence as plaster, woodwork, finished flooring and draperies were added to the sample installation.

Morrison Steel Compiles Book Of Uncle Jake's Letters

"DEAR NEPHEW GENE" is the title of a booklet, prepared by Morrison Steel Products, Inc., Buffalo, N. Y. and containing eleven letters purportedly written by Uncle Jack Burpian of Sinful Bend, Mo., to "Gene" Brown of Morrison. The letters appeared originally in the "Morrison Press," company house

NON-TOXIC
NON-INFLAMMABLE
NON-CORROSIVE

Cosmiclene
FUEL OIL TREATMENT

FOR HOME AND INDUSTRIAL USE

ABSORBS MOISTURE
DISSOLVES SLUDGE, TAR and CARBON

COSMICLENE FUEL OIL TREATMENT has proven its superiority by outstanding performance.

A non-toxic, non-inflammable, non-corrosive concentrated chemical liquid. When added to your fuel oil in tank, Cosmiclene will absorb moisture, dissolve sludge, tar and carbon, and *"burn it off as live fuel"*. Hence insuring free and clear burner systems.

The regular use of Cosmiclene will bring you savings in fuel oil bills, less shut downs and lower maintenance costs.

Cosmiclene is ideal for range burners, farm equipment, Diesel fuel oil tanks, kerosene heaters, commercial, industrial and domestic oil burners.

Available in pints, quarts, 1, 5, and 55 gallon drums.

MORE HEAT from LESS FUEL

Address your inquiries to:
OLD FORGE PAINT & REFINING CORP.
INDUSTRY'S PREFERENCE IS OUR BEST REFERENCE
214 W. 65th St. • New York 23, N. Y.

CROWN your Installation with THE
GALONGAGE!

Outstanding in its field, *Galongage* design, construction and appearance does credit to the finest heating installation. Because *Galongage* measures in gallons... has an easy-to-read magnifying lens... requires only 4-inch head clearance... comes fully assembled... is approved by Underwriters' Laboratory.

When ordering, specify depth of tank and size of opening.

APPLIED MECHANICS COMPANY
167 OLIVER STREET, BOSTON 10, MASSACHUSETTS

organ, and recount in humorous vein the exploits and activities of Uncle Jake, referred to as a "procrastinator, philosopher and teller of tall tales."

E. T. (Gene) Brown, in an introductory note in the booklet, says, "I created the Ozark letters as a sign of acceptance of the 'hill-billy' label with which my new found friends in Buffalo tagged me, and also used them as retaliation to my old friends in Missouri who chided me for deserting to the Yankees."

A. R. Webber Co. Publishes 1949-50 Oilburner Catalog

THE FRONT COVER of catalog No. 12, recently issued by the A. R. Webber Co., Inc., New Haven, Conn., features the company slogan, "Everything for the Oilburner Trade." The catalog contains many photographs of oilburner parts and accessory equipment, with trade prices listed. A number of new items have been added to this year's book, so that it becomes virtually a directory of parts and equipment.

Copies of the catalog already have been distributed by mail to the trade, free of charge. Others who wish a copy can secure one from Webber for $1.00. The payment insures that all future catalogs or published material will be mailed to the purchaser.

National Art Baseboard Described In Literature

CATALOG NO. 599, prepared by National Radiator Co., Johnstown, Pa., gives construction details, ratings and applications of National Art Baseboard radiators. The 4-page catalog illustrates and describes the installation of this component of a forced hot water heating system and includes ratings in Btu per hour per lineal foot. Type BR is pictured for application in place of customary baseboards and below the plaster coat; type BF is described to be installed against the plaster in place of conventional baseboards.

Bank Of America Launches "Buy Now" Campaign

AN ADVERTISING and merchandising campaign, announced by the Bank of America, San Francisco 20, Calif., is designed to overcome buyer inertia and promote the business building idea, "Buy Now, with Timeplan Financing." Timeplan bank credit will be offered in the campaign through the Bank's 500 branches and more than 10,000 dealers and contractors.

L. M. Giannini, president, in announcing the plan, describes it as a positive method to overcome a strong tendency on the part of buyers to hold back. He advocates the application of aggressive and resourceful salesmanship to induce hesitant purchasers to buy now and offers his organization's campaign as an auxiliary to local efforts.

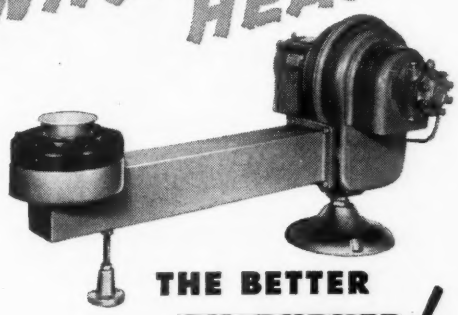
American Mineral Spirits Adds Marcus Hook Terminal

EXPANSION in the marketing of heating oils by American Mineral Spirits Co., New York, has been accomplished with the acquisition of a 10,000,000 gallon deep water terminal at Marcus Hook, Pa. The new supply point formerly was used by the Pure Oil Co.

Amsco's fueloil program at all the company's terminals will be under the

DEALERS WANTED!

SWIRLING HEAT



THE BETTER OIL BURNER!

Live customers are waiting for the superior performance that Swirling Heat can deliver! *We are looking for live, experienced dealers who will welcome a line of better burners.* Let's get together!

- NO COMBUSTION CHAMBER REQUIRED
- NO CARBONIZING ON NOZZLE OR IGNITION POINTS
- HIGHER CO_2 — GREATER EFFICIENCY
- INSTALLATION PROBLEMS GREATLY SIMPLIFIED

SWIRLING HEAT CORPORATION, 1775 BROADWAY, NEW YORK 19, N. Y.

RESEARCH LABORATORIES, 2818 N. WASHINGTON BLVD.

SINCE 1929 ARLINGTON, VIRGINIA

PREFERRED DRAFT-A-JUSTORS

Cut Fuel Consumption by

10% TO 30%

The *Preferred* Draft-A-Justor is the original, patented Draft-A-Justor . . . improved to include the latest in engineering developments.

Stainless steel bearings and weather resistant metals provide long-life service without breakdown due to rust or wear . . . assure *continuous* fuel savings.

Millions now in satisfactory use.

WRITE FOR DESCRIPTIVE LITERATURE AND TRADE PRICES.

SIZES

Store, domestic and commercial sizes from 4" to 24" in diameter.

Industrial sizes from 2' x 2' to 5' x 12'.

PREFERRED UTILITIES MFG. CORP.

1840 Broadway, New York 23, N. Y. Boston Office: 839 Beacon St.

supervision of its fueloil director, John J. Buckley, from New York City headquarters. The acquisition of the Marcus Hook outlet adds to the company's facilities in Boston, Providence, South Kearney and Carteret, N. J., enabling Amsco to market light and heavy heating and diesel oils along the eastern seaboard from Massachusetts south to Maryland.

Electric Furnace Man Using E.F.M. Brand For All Products

AS QUICKLY as the changeover can be accomplished, all products with the trade name "GEMACO," made by General Machine Co., Inc., Emmaus, Pa., will be redesignated "EFM." The firm, which makes Electric Furnace Man stokers and units, is thus capitalizing on reputation and publicity that has been devoted to the older product.

As a start in the changeover, an envelope stuffer and a gate-fold catalog on EFM gun type oilburners has been offered to dealers, along with four newspaper mats that can be used for local advertising. Both pieces of literature are for consumer use and feature, as does the advertising, that EFM burners have been designed especially to burn efficiently the "cat-cracked" oils.

Maintenance Shop Building Opened At Shell Refinery

A SHOP BUILDING, whose chief purpose is to consolidate maintenance operations, has been completed at Shell Oil Company's Deer Park refinery. The building has 98,000 sq. ft. of floor space, equipped with three traveling bridge cranes to handle heavy equipment.

An air conditioning system maintains constant working conditions and a special cleaning building, where dirt and oil are removed from refinery parts, insures cleanliness for the main shop that is unusual in maintenance operations.

Jas. P. Marsh Broadens Sales Organizations

UNDER a new organizational set-up, announced by the Jas. P. Marsh Corp., Skokie, Ill., that company will become the manufacturing division to serve three selling and distributing organizations.

Sales of the recently-acquired Electrimatic line of refrigeration control valves will be handled by The Electrimatic Co.; sales of pressure gauges, dial thermometers and related products will be a function of the Marsh Instrument Co. and, as in the past, the Marsh Heating Equipment Co. will distribute traps, valves and heating specialties. Each of the organizations will be designated as sales affiliates of the Jas. P. Marsh Corp.

Winkler Demonstrates Burner For N. Y. Technical Students

STUDENTS of the New York Technical Institute, New York 11, N. Y., during September witnessed a demonstration of the Winkler low pressure burner, produced by the U. S. Machine Corp., Lebanon, Ind. William E. Blake, eastern division manager, and William Gaskell, district sales manager for Winkler, made the presentation, explaining the burner parts and their functions and closed by answering questions from the students about the demonstration.

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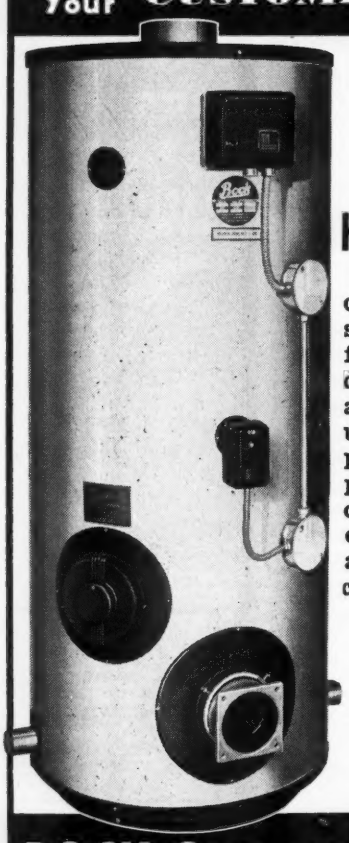

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Bock Water Heaters come in three popular sizes. A 30 gal. model for domestic use. A medium sized model for apartments and a large unit for heavy duty application. They are supplied with or without the oil burner. Come with electric wiring in place and with a removable combustion chamber.

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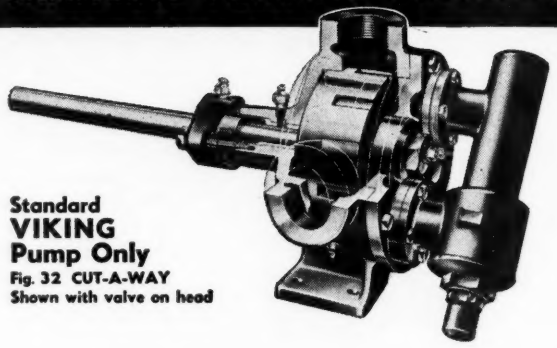
★ *Satisfaction*
★ *Repeat Sales*

Water Heater Headquarters

BOCK Corporation, Madison, Wisconsin

THIS SIMPLE PUMP MEETS THE NEEDS OF CONSTANTLY CHANGING PUMPING PROBLEMS



Standard VIKING Pump Only
Fig. 32 CUT-A-WAY
Shown with valve on head

It's the simplicity of this time-proved Viking principle backed by the know-how of building and applying it to the application, that makes it possible to meet the needs of the fuel oil jobber so well.

VIKING AN HONORED NAME IN PUMPING

Many styles and sizes are built for these exacting requirements. Write for bulletin 1500EE today.

See Our Catalog In SWEETS

Viking PUMP COMPANY Cedar Falls, Iowa

Leo J. Whelan, chief instructor, Oil Burner Div., New York Technical Institute, later conducted the Winkler representatives on a tour through the school's classrooms and shops.

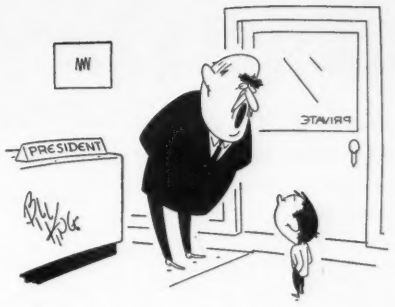
Gorton Heating Appoints Pittsburgh Sales Outlet

APPOINTMENT of Industrial Heating Engineering Sales, Pittsburgh, Pa., as a sales representative has been announced by Gorton Heating Corp., Cranford, N. J. Ray W. Godfrey heads the outlet, which will distribute Gorton vapor equalizing valves and air eliminators in the Pittsburgh territory.

Two Alken-Murray Products Described In Sales Literature

TWO PRODUCTS, made by Alken-Murray Corp., New York 23, N. Y., are described in sales literature, copies of which may be secured from the manufacturer.

"Beware of Sludgey," the title of one of the folders, is devoted to Even-Flo liquid fueloil conditioner. Copy in the folder tells how to prevent formation of sludge, a potential cause for clogged nozzles and oil lines.



"Yes, that's true- my name is Charlie, but in the first place I'm older than you, and furthermore...."

The other piece of literature describes the use and effectiveness of Soot-Off, for removal of soot and carbon formations. Brief explanatory copy tells how soot is formed and how it decreases heating system efficiency.

Commercial Filters Opens Midwestern Sales Office

A MIDWESTERN SALES OFFICE, opened by Commercial Filters Corp., Boston 27, Mass., is located at 603 West Washington Blvd., Chicago. Walter H. Magee will be in charge of the office, which will handle the complete line of Fulflo filters and cartridges.

M. J. Rathbone, president, Esso Standard Oil Co., and *John W. Brice,* coordinator of producing activities, Standard Oil Co. (Jersey), have been elected directors of Standard Oil Co. (Jersey), effective November 1. Mr. Rathbone, head of Standard's principal domestic refinery and marketing affiliate since 1944, has had twenty-eight years' experience with the company and its affiliates. Mr. Brice, producing coordinator since November 1947, has been engaged in the company's exploration and producing activities for the past twenty-two years. *Roger H. Sherman,* who for the past twenty years' has been engaged in oil exploration work for the company, succeeds Mr. Brice as coordinator of all producing activities.

Louis E. Marron, chairman of the board, Coastal Oil Co., Newark 2, N. J., fishing as a member of the United States team in the International Tuna Tournament held at Wedgeport, Nova Scotia in September, helped his team to victory for the second year in a row. Mr. Marron was high scorer for the U. S.

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A complete Hot Water package. No radiators. Easy to sell, store and install. Get Spec. No. 56.
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1 to 20 gal. capacity. Domestic and industrial.
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Highboy and Lowboy units, 85,000 to 200,000 B.T.U., complete with burner.
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Conversion Burners

Oil Fired Boilers

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2300 Sinclair Lane, Baltimore 13, Md.

Reader's Problems

Q. Is there an exact draft for a furnace fired .75 gph?

E.W.A., Augusta, Ga.

A. No. Different models of furnaces fired .75 gph operate best with different draft. The over-fire draft, read using an opening in the flame observation door or firing door, is best at .02" for many models. However, according to their manufacturers, certain furnaces operate best with "a trace" (less than .01" but definitely a negative draft), or .01", or .03" over-fire draft. The proper over-fire draft is the lowest draft that gives no troubles of insufficient draft. The proper smokepipe draft is the draft that gives the correct over-fire draft.

* * *

Q. Are there ways to make a noisy motor quieter on the job? Some motors make more noise than others and cause complaints.

O.N.R., Davenport, Ia.

A. We've never heard of on-the-job methods of quieting noisy motors. Using the highest quality motors made today, complaints about excessive motor noise are exceedingly rare. If you are certain that a new motor is noisy, send it back to its manufacturer for check-up and improvement. To arrive at the proper balance for maximum quietness, a motor must be balanced dynamically using special balancing equipment.

* * *

Q. The interesting cross-section of an old-fashioned gun tube you show on p. 91 of the October FUELOIL & OIL HEAT *makes us point out that certain weighty safety authorities want distances "C" and "D" to be minimum of 2½" where these can be altered by a service man, not minimum 2" as you suggest. Of course, this may not be so in the States. Setting the four air-blade device closer to the nozzle gives a wider fire, we find, but an inferior quality of combustion caused by directing into the flame four individual jets of air, one from each blade. I have noticed some years ago the same questions (asked by V.T.M., Brooklyn, N. Y.) asked then by someone from Herkimer, N. Y., and am glad now you answered these fully.*

Another often-asked question: Should the gun tube of a burner be level, or should it be slanted?

E.C.N., Montreal.

A. In the States, the current opinion of weighty safety authorities is that any oil that finds its way into the gun tube, because of a leak of the shut-off valve or gun tube parts for example, should drain to the firebox. A drain hole, slot, or some type of channel is provided for this at the firebox end of the gun tube, and installers are cautioned to make certain not to plug this tightly with refractory cement, for example. The preference of safety authorities seemingly is for the gun tube to slant downwards towards its firebox end, to drain oil from

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it into the firebox. True, certain individuals prefer that a shut-off valve leak would show up as a spot on the basement floor, which would cause the owner to call a service man. They would slope the gun tube down at its blower end and provide a drain opening if this were needed to prevent pocketing of oil in the gun tube. These individuals point out that certain boilers and furnaces, fitted with stainless steel fireboxes and combustion spaces that will hold a few quarts of oil, perform erratically as a result of a leaky shut-off valve if oil accumulates in their fireboxes.

Thank you for your detailed letter and your intense interest in FUELOIL & OIL HEAT.

* * *

Q. The whole utility room in which this furnace-burner, with pressure gun burner that has overload protector built in the motor, is located is extremely warm. Utility room may be warm as 100° because it is in the middle of the house and gets heat from the furnace, smokepipe, and chimney. The burner is inside the jacket in a place that we've seen as hot as 140°. Resultant trouble is the burner motor keeps stopping on its built-in overload protector, even though the motor spins freely, is not overworked, defective, etc. What to do?

O.A.M., Scranton, Pa.

A. Ask the manufacturer of the unit about the problem. You may have to put a jumper on the built-in overload protector or better still, remove it. Use instead a fuse of the thermal, time-delay

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(*For fuel oil soot only.*) Keep a supply on every Service Truck. Sell cleaning jobs. Use *E-Z*. One application does a thorough soot cleaning job. Saves time. Pays extra profit. Sell one-lb. cans to customers. If your Distributor cannot supply you, order direct.

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★ EFFICIENT
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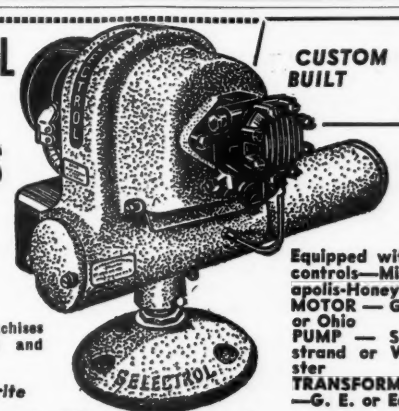

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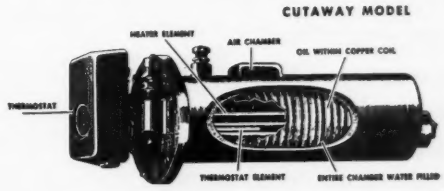
VISCOS-O-TROL

CUTAWAY MODEL



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VISCOS-O-TROL can be installed on any existing rotary oil burner, improving its performance tremendously.

MAKE FRIENDS AND MONEY BOTH BY SELLING THE MOST MODERN AND COMMON SENSE OIL PREHEATER SYSTEM.

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type that matches the motor and gives overload protection, and locate this outside the furnace jacket. Or install an overload protector of the type which has a lever which throws off for an overload and is re-set to start the motor again. This also would be installed outside the furnace jacket.

* * *

Q. Is there any benefit or fuel economy gained by cooling, on a large two-pipe steam job, the condensate returning to the boiler room? If there is, an indirect water heater could be used to lower the temperature of the condensate before it is pumped into the boilers. The heat picked up from the condensate could go into the hot water storage tanks by feeding them mildly heated water instead of cold water. The reason we ask if chilling the return water will save fuel is that recently we visited a big job and the well-educated heating engineer in charge told us to feel the temperature of the return lines in the boiler room. They were cool, about 130°, compared to steam lines. He proudly told us that by hard work since he had taken over the building he had cut their temperature 50°. We've wondered since how and why he did this.

P.T.F.S., Columbus, Ohio.

A. If, as this engineer probably did, you cut the condensate temperature by locating and replacing bad traps at the radiators and ends of the steam mains, you improve the operation of the heating system and save fuel. To understand this fully, you may have to study two-pipe steam heating systems using thermostatic traps and learn the function of the traps. Briefly, the traps should close properly when heated to a certain temperature, because if they don't steam flows through them into the return lines. One sign of this is excessive temperature of the return lines that bring the condensate to the boiler room. The condensate or vacuum pumps in a large boiler room may not work properly when handling returned water above a certain temperature. No benefit or fuel savings will be gained by cooling the condensate in the way you describe. Basement and boiler room return lines often are insulated to prevent excessive heat loss; the insulation keeps the condensate warm.

Q. I cured the kind of cold-floor trouble shown and discussed on p. 119 of your August issue, and spent very little doing it. I simply reversed the air circulation. Warm air comes now from the floor registers (instead of from the ceiling) after giving up maybe half its heat to warm the floor by heating the space under the floor. I found the registers on my trouble job well located for reversing circulation, as the floor registers (originally used as returns) were under the windows, exactly where they would serve well as supply floor registers. The way I did it, running an exhaust blower in the kitchen would help heat the place.

Concerning the answer you gave to the problem, I want to ask how reducing the blower speed would help? Doesn't rushing the hot air around in the unheated space, as you recommend, take lots of cfm? Isn't this additional to the cfm for which the whole system was planned in the first place?

C.E.K., Chicago.

A. Thank you for the account of how you licked similar trouble. Regarding the reduction in cfm which you say

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Avoid a possible plant shutdown by treating your fuel oil with Alken Certified EVEN-FLO Oil Conditioner.

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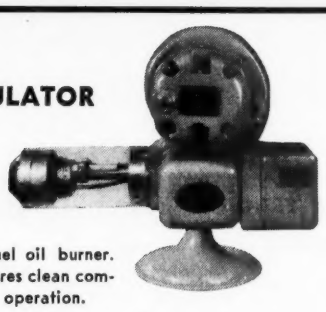
THE WEATHERALL ELECTRONIC TURBULATOR



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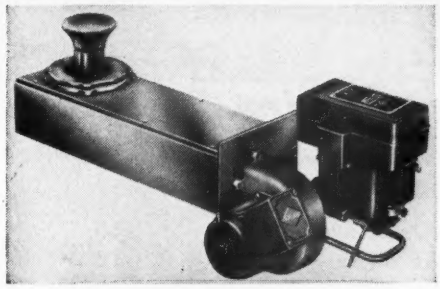

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we recommended, we've only to say that, reading our answer carefully, you'll find we said that in a similar instance it worked out well to reduce the blower's speed and cfm capacity because with the floor heated the supply and return registers carried a reduced Btu load. Applying highly effective rock wool insulation to the walls of the space under the building reduced the heat loss of the building as a whole. Before the insulation was applied, the entire building was being chilled by the out-go of Btu's through these walls of the space under the building. An unusually cold floor does chill a room or add to its heat loss, which ever way you want to regard it.

* * *

Q. One chimney flue must be used for a furnace using a 9" smokepipe and an oil water heater using a 5" smokepipe. We wonder where to put the draft regulator, and which size to use?

E.B.W., Grand Haven, Mich.

A. If possible, install on the chimney a draft regulator (we assume you will use the swinging disc type usually used) having area equal to the area of the chimney flue. Start adjusting by aiming for about .02" over-fire draft for the furnace and water heater, with both operating of course. If one tends to give decidedly higher over-fire draft than the other, baffle its flue passages using pieces of boiler plate or firebrick. If you can't put the draft regulator on the chimney, locate it on the 9" smokepipe, close to the chimney.

* * *

Q. After building many similar fireboxes of soft brick, we find that the back wall of just one firebox is pitted so much after three years' use that half the brick are gone. The trouble firebox is fired 1.75 and is 13" wide, 16½" long, with 18" side walls. The problem is to avoid damage to a new back wall.

I.T.S., Cairo, Ill.

A. After you repair the back wall, switch to a new nozzle. Probably excessive firing rate or poor atomization, caused by a defective or improperly rated nozzle, caused the pitting of the insulating firebrick. Make certain, if the burner has adjustable air-handling parts in its gun tube, not to adjust for a long, torch-like flame. Impingement of oil particles on the back wall undoubtedly caused the firebox pitting you describe.

* * *

Q. What causes water to seep at times, or pour out, from a fitting of a new style hot water heating plant?

D.N.S., Nantucket, Mass.

A. Continual dripping of water from the pressure relief valve is caused by failure of this valve or the automatic feed valve to close tightly when it should. Dirt in either valve, a defect, or improper adjustment may cause the failure to close tightly. Waterlogging of a closed expansion tank, or failure to install an expansion tank of sufficient size, causes water to come from the pressure relief valve when the temperature of the boiler is raised.

◈

Dr. Bernard H. Shoemaker, assistant director of research, Standard Oil Co. (Indiana), has been chosen chairman-elect of the petroleum div., American Chemical Society, and has just completed a two-year term as a member of its executive committee.

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Everything for the Oil Burner Trade

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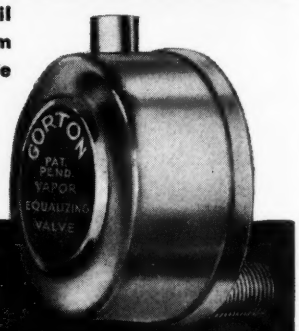

GORTON HEATING CORPORATION

Manufacturers of High Grade Heating Equipment Since 1887

CRANFORD NEW JERSEY

Telling the Story

(*Continued from page 52*)

formance of the unit over the years. The dealer's good name locally, his years in business, his staff of trained installation men, and the service men standing ready twenty-four hours a day in the cold months to keep the unit in top operating condition, all are covered at this point. To most prospects the local aspect is much more understandable and important than the more remote manufacturer. He wants to be assured that the representatives in his own community are competent and reliable.

Proof of the statements and claims concludes the presentation. The salesman has said that the burner satisfies the conditions for satisfactory and efficient oilheating, and that the company's services are superlative. Now comes the proof in the form of users lists, testimonial letters, pictures of local installations and homes, newspaper and magazine articles and any other material that supports the claims made during the first parts of the presentation. The prospect is invited to call Mr. Sampson just down the street for a report on his installation, and is asked to read what Miss Smith on Elm Street has to say about the cost of operation. The section on proof closes the presentation and opens the way for the close.

The story should be timed to take about a third of the total interview. Twice as much time should be allowed for the close as for the presentation. Any organized presentation should be given completely in not more than an hour, and as much less as possible and still be thorough. The salesman's time is valuable, and he must also be considerate of the prospect's time. If the presentation is made in the evening, as is so frequently the case, the salesman probably will have at least two calls to make, and the prospect may have other commitments. If the presentation is too long and the prospect gets anxious for the salesman to leave before the neighbors arrive for a few hands of bridge, he is not likely to be very attentive. The more compact and full of punch the presentation, the better for everybody.

To sum it up, the presentation is the story—the narrative part of the sale. This is where the fact should be established and the prospect made familiar with the product and the companies that stand behind it. It must be organized so it will have a place to start, and more important, a definite place to stop; so it will be complete but brief; so it will not ramble, repeat or become boresome. *Any presentation worth allotting time to give is worth writing, studying, and rewriting if necessary.*

◈

George W. Altman has been named plant manager of the Trenton, N. J. cast-iron radiator foundry, National Radiator Co., Johnstown, Pa., succeeding E. W. Longacre, who, after thirty-five years' service with National, has retired because of ill health. Mr. Altman joined the company earlier this year as a foundry foreman and had been associated previously with Bridgman Castings and the Lennox Furnace Co.

Arthur G. Neubauer, Dallas, Texas, has become sales representative in Oklahoma and northern Texas for the Solder Seal line made by Radiator Specialty Co., Charlotte, N. C.

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CRIMP TYPE and SOLDERLESS

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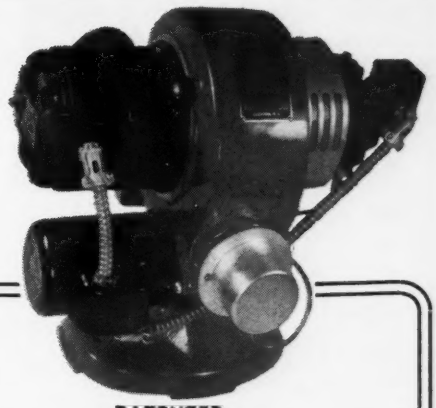
TRU-HEET OIL BURNER
Equipped with PATENTED COMBUSTION HEAD
CO_2 as high as 15%—no smoke. Oil rate 0.50 to 10.00 G.P.H.
Write today for full information on this PROFIT LINE to:


PATENTED

TRU-HEET OIL BURNER
TRU-HEET COMPANY, 542 Miller Ave., TRENTON, N. J.
Manufacturers of Fine Oil Burners Since 1928

Oilheating Trends

(*Continued from page* 11)

the price guarantee program next year 31% voted yes and 69% voted no.

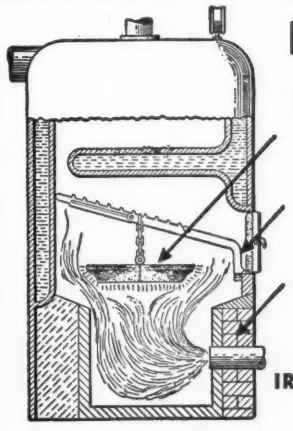
FUELOIL PRICE EFFECT: Along the Eastern Seaboard fuleoil prices have gone up as much as 2¢ since mid-summer and in other parts of the country somewhat less. Asked what effect this is having on sales of new oilburners 66% of the dealers say it has not bothered them while 34% report that higher price is hurting their sales. They were then asked whether they considered the general price of fueloil important to burner sales and 46% voted yes, 54% no.

DEALER COMMENTS: Typical comments on questions of the month are these . . . "People are nearsighted on the gas situation: they do not realize that new 26 in. pipelines are not all of the answer and that the gas still has to go through small inadequate lines in every street where they have not been changed" . . . "Transports have been so busy on gasoline haven't had time to haul fueloil for summer fill ups but we are making good headway now" . . . "Had a bad setback from gas but it is all over now" . . . "We'd like to see fueloil selling for 10¢; many people believe gas is best and with its free service we definitely need a price advantage to get new home business" . . . "Oilburner sales large in late August and September because some folks held off hoping we'd get gas and then couldn't" . . . "The overall picture in our territory is that oilburner sales will see the greatest of all years especially if John Lewis keeps up" . . . "The coal strike is helping us sell oil here although natural gas promised for next year is retarding sales" . . . "The price of fueloil is too high" . . . "The problem of taking care of all customers at a summer discount is impossible with the majors increasing the price at a moment's notice" . . . "The retail oilburner salesman is having a tough time explaining the high price of oil" . . . "The low summer price of 9.9¢ a gallon did the trick; it filled tanks and brought in the oilburner buyers" . . . "The pricing situation on fueloil smells to high heaven" . . . "The Government or somebody should force the major companies to keep the price of fueloil below 10¢" . . . "Oilburner manufacturers must be hungry for business; they will be selling them in drug stores soon" . . . "The only reason there are no complaints about the high oil price is due to the coal strike" . . . "Too many price increases in too short a period are making people hold off buying burners" . . . "May John L. Lewis live a long life" . . . "More new installations in our area going to electric heat."

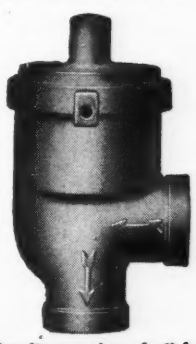
◈

W. J. Frederick has been named manager of the Newark, N. J. branch and *G. F. Zeller,* manager of the New Brunswick, N. J., branch, Mack Trucks, Inc., New York 1, N. Y. Both are veteran Mack employees, Mr. Frederick having joined the company in 1925; Mr. Zeller in 1917.

F. R. Fletcher has joined the staff of the Chicago district office, Penn Electric Switch Co., Goshen, Ind., replacing L. D. Linehan. Mr. Fletcher, an experienced sales engineer, most recently was with White-Rodgers Co. and covered the Chicago territory for the past two-and-a-half years.

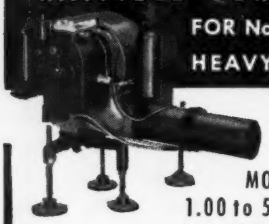


IRON-HIDE
High Quality—Low Price
HINGED, FOLDING BAFFLES
•
ADJUSTABLE BAFFLE SUPPORTS
COMBUSTION CHAMBERS
(INSULATING TYPE)
ALL SIZES & SHAPES
IRON-HIDE REFRACTORIES, INC.
DOCK ST., MATAWAN, N. J.


Permits pumping of oil but closes to prevent syphoning in case of suction line break.

PREFERRED
Anti-Syphon Valves
APPROVED BY
UNDERWRITERS' LABORATORIES, INC.
For Oils Up To No. 5—Valves C5 and C10 are available in ⅜" and ½" sizes.
For Oils Up To and Including No. 5—Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)
PR-173
PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY, NEW YORK 23, N. Y.

RAYFIELD BURNERS FOR No. 4 or No. 5 HEAVY OILS



MODEL JR.
1.00 to 5.00 GALS./HR.
MODEL D4
3.00 to 12.00 GALS./HR.

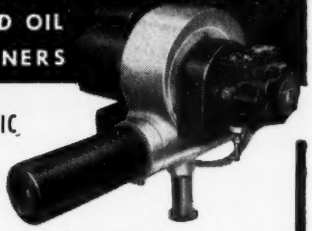
1. Fully Automatic
2. Self Cleaning Nozzle
3. Self Lubricating
4. All Electric Operation
5. Pays for itself from savings
6. Burns the cheaper No. 5 oil

RAYFIELD AUTOMATIC

HEAT RECLAIMERS

1. Low in Price—Automatic—Easy Installation
2. Installs on Boilers, Furnaces or Stoves
3. For use with Coal, Gas, Oil or Wood
4. Increases output of ANY gravity warm air furnace
5. Heats Basements, Play Rooms, Garages, etc.
6. The hotter the stack—the more heat reclaimed
7. Saves wasted heat now going up the chimney

RAYFIELD—SHELL COMBUSTION HEAD OIL BURNERS



for CATALYTIC OILS TO #3 GRADE
2 MODELS
1.00 to 3.00 GALS./HR. CAPACITY

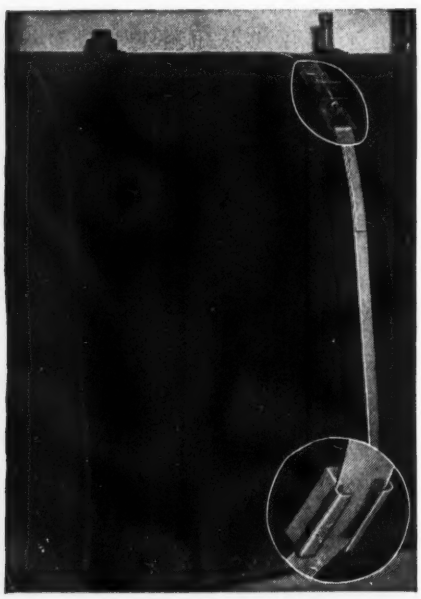
1. Shell Head Economy 12 to 15% CO_2
2. Clean boilers with perfected combustion
3. Burns Catalytic oils easily
4. Quiet—No Vibration or pulsation
5. Cuts user's oil bills 14 to 36%
6. The ideal replacement oil burner

C. L. RAYFIELD COMPANY • 2010-18 SO. HALSTED ST. • CHICAGO 8, ILL.

USE

*TANKIT

An emergency kit to stop a leak in an inside fuel oil tank instantly. IS TO BE USED FOR TEMPORARY RELIEF until such time as the fuel is consumed and the tank replaced. TANKIT is then to be put back in container for future use.



*Reg. *Pat. Pend.

NEW LOW PRICES!

1-2 $3.00
3-11 $2.75
12 or more $2.50

WRITE FOR YOUR NEAREST DISTRIBUTOR

TANKIT CO.
137 Cedarhurst Avenue Cedarhurst, N. Y.

DEGREE DAY TABLES

ONE MONTH ONLY — September Normal	September 1948	September 1949	Percent Change*		SEASON TO DATE (Sept. 1 to May 31) Normal	1948	1949	Percent Change*
116	83	208	+ 79.3	Albany	6587	7398	5560	— 15.6
12	7	32	+166.7	Atlanta	2999	2818	2585	— 13.8
34	25	54	+ 58.8	Baltimore	4509	4469	3670	— 18.6
98	76	105	+ 7.1	Boston	5853	6162	4979	— 14.9
125	93	206	+ 64.8	Buffalo	6805	6687	5886	— 13.5
84	19	126	+ 50.0	Chicago	6205	6306	5556	— 10.5
52	26	86	+ 65.4	Cincinnati	4993	4570	3991	— 20.1
92	56	126	+ 37.0	Cleveland	6094	5770	5210	— 14.5
5	2	5	..	Dallas	2378	2693	2473	+ 3.9
124	37	76	— 38.7	Denver	5784	5533	6037	+ 4.4
99	36	164	+ 65.7	Des Moines	6356	6361	6308	— 0.7
109	74	182	+ 67.0	Detroit	6502	6522	5797	— 10.8
126	55	224	+ 77.8	Grand Rapids	6655	6467	5933	— 10.9
106	90	132	+ 24.5	Hartford	6037	6578	5393	— 10.7
288	255	301	+ 4.5	Helena	7600	7853	8830	+ 16.2
..	0	1	..	Houston	1333	1557	1257	— 5.7
65	44	117	+ 80.0	Indianapolis	5459	5369	4814	— 11.8
50	13	79	+ 58.0	Kansas City	4971	4962	4874	— 1.9
5	4	0	..	Los Angeles	1362	1484	1860	+ 34.6
34	19	78	+129.4	Louisville	4421	4351	3799	— 14.1
120	47	179	+ 49.2	Milwaukee	6955	7050	6557	— 5.7
163	60	211	+ 29.4	Minneapolis	7898	8086	7649	— 3.2
..	89	138	..	New Orleans	1208	1626	870	— 27.9
51	20	53	+ 4.0	New York	5270	5367	4432	— 15.9
81	36	137	+ 69.1	Omaha	6074	6217	6300	+ 3.7
36	21	46	+ 27.8	Philadelphia	4720	4923	4816	+ 2.0
69	60	120	+ 73.9	Pittsburgh	5427	5443	4504	— 17.0
179	99	239	+ 33.5	Portland, Me.	7128	7321	6223	— 12.7
109	121	59	— 45.9	Portland, Ore.	4214	4204	4524	+ 7.4
104	68	100	— 3.8	Providence	5946	6393	4788	— 19.4
36	16	70	+ 94.4	St. Louis	4602	4768	4311	— 6.3
95	63	42	— 55.8	Salt Lake City	5568	5782	6079	+ 9.2
122	154	106	— 13.1	San Francisco	2569	2866	3115	+ 21.2
281	193	355	+ 26.3	Sault Ste. Marie	8901	8888	8205	— 7.8
174	180	112	— 35.6	Seattle	4560	4680	4785	+ 4.9
98	76	203	+107.1	Toledo	6202	6460	5626	— 9.2
43	27	55	+ 27.9	Washington	4582	4369	3640	— 20.1

*Compared with normal.